NOAA Technical Memorandum NWS WR-152

CLIMATE OF SALT LAKE CITY, UTAH

Wilbur E. Figgins (Retired)
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Salt Lake City, Utah
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UNITED STATES
DEPARTMENT OF COMMERCE
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Atmospheric Administration
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Note: Data is current through May of 1992.

CLIMATE OF SALT LAKE CITY, UTAH

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Weather Service Forecast Office
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I. INTRODUCTION

The purpose of this publication is an attempt to bring together under one cover as much data as possible concerning the climate of Salt Lake City. This was a difficult undertaking because of the wide variance of climate in the Salt Lake area. The Wasatch Mountain range, immediately east of the city, and the location of the Great Salt Lake, a short distance to the west, cause a great difference in local microclimates.

The Salt Lake City weather records began over 100 years ago; however, the statistics in this report are based on the airport weather records which began May 1, 1928. The airport location continues to the present to be the National Weather Service' official weather observing location for the Salt Lake City area. This provides us with over 64 years of continuous weather information that was observed from an existing or comparable exposure location. However, it must be remembered that various extremes stated in this paper have, no doubt, been exceeded at other sites in the locality. Any summary such as this must be taken in the context of giving a general view of Salt Lake Valley conditions with the details only being applicable to the airport environs.

II. GEOGRAPHICAL AND CLIMATOLOGICAL SUMMARY

Salt Lake City is located in a northern Utah valley surrounded by mountains on three sides and the Great Salt Lake to the northwest. The city varies in altitude from near 4,200 feet to 5,000 feet above sea level (ASL).

The Wasatch Mountains to the east have peaks to nearly 12,000 feet ASL. Their orographic effects cause more precipitation in the eastern part of the city than over the western part.

The Oquirrh Mountains to the southwest of the city have several peaks to above 10,000 feet ASL. The Traverse Mountain Range at the south end of the Salt Lake Valley rises to above 6,000 feet ASL. These mountain ranges help to shelter the valley from storms from the southwest in winter, but are instrumental in developing thunderstorms which can drift over the valley in the summer.

Besides the mountain ranges, the most influential natural condition affecting the climate of Salt Lake City is the Great Salt Lake. This large inland body of water, which never freezes over due to its high salt content, can moderate the temperatures of cold winter winds blowing from the northwest and helps drive a lake/valley wind system. The warmer lake water during the winter and spring also contributes to increased precipitation in the valley downwind from the lake. The combination of the Great Salt Lake and the Wasatch Mountains often enhances storm precipitation in the valley.

Salt Lake City normally has a semi-arid continental climate with four well-defined seasons. Summers are characterized by hot, dry weather, but the high temperatures are usually not oppressive since the relative humidity is generally low and the nights usually cool. July is the hottest month with average maximum readings in the nineties.

The average temperature range is about 30 degrees in the summer and 18 degrees during the winter. Summer temperatures above 102 degrees or winter temperatures colder than -10 degrees occur only 1 season out of 4.

Winters are cold, but usually not severe. Mountains to the north and east act as a barrier to frequent invasions of cold continental air. The average annual snow fall is under 60 inches at the airport, but much greater amounts fall on higher bench locations. Heavy fog often develops under temperature inversions in the winter and can persist for several days.

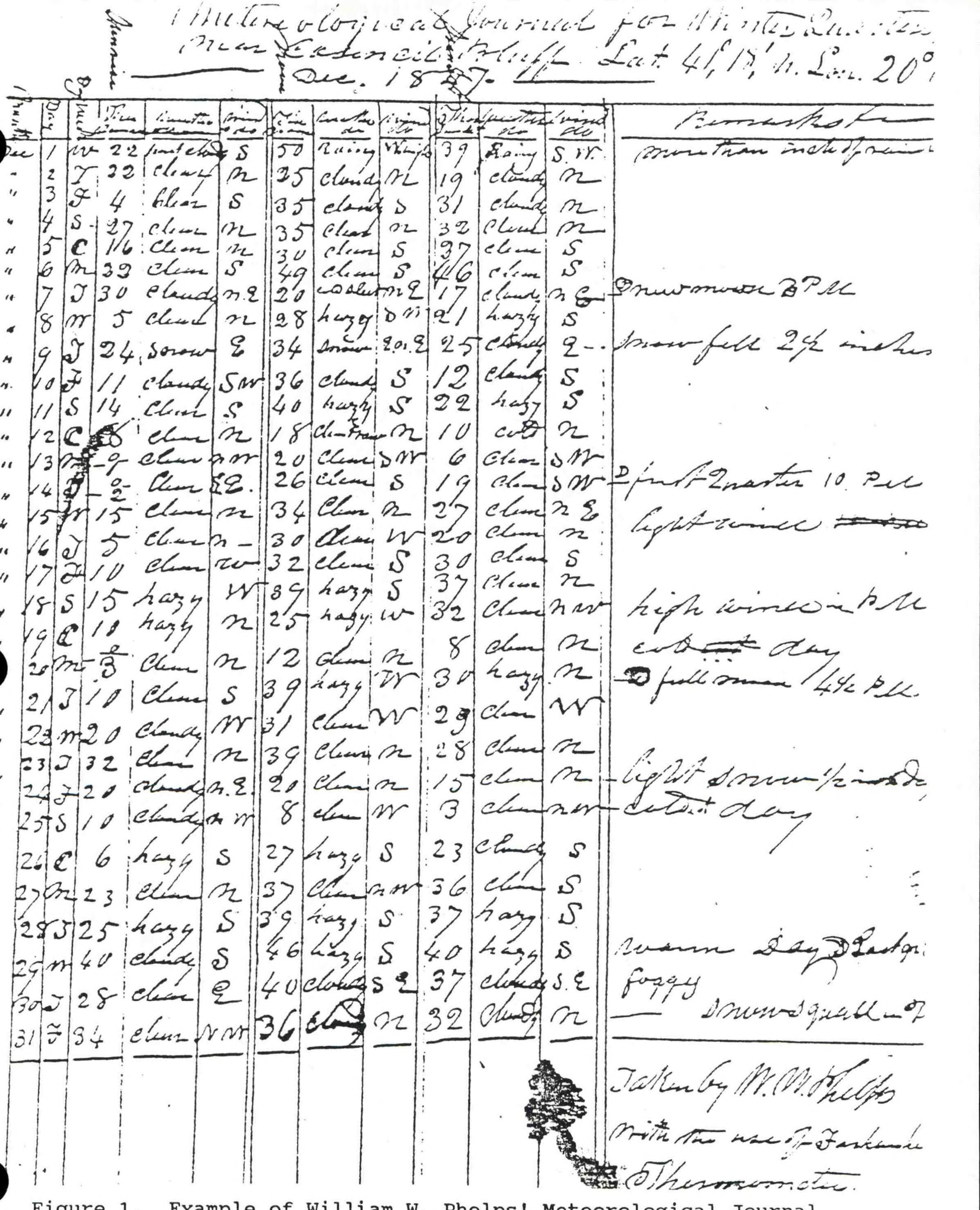
Precipitation, generally light during the summer and early fall, reaches a maximum in the spring when storms from the Pacific Ocean are moving through the area more frequently than in any other season of the year.

Winds are usually light, although occasional high winds have occurred in every month of the year, particularly in March.

The growing season, or freeze-free period, averages over 5 months in length. Yard and garden foliage generally are making good growth by mid-April. The last freezing temperature in the spring normally occurs in late April with the first fall freeze normally occurring in mid-October.

III. HISTORY OF WEATHER OBSERVATIONS AT SALT LAKE CITY

The first weather observations in the Salt Lake area were taken by Mr. William W. Phelps, who entered the Salt Lake Valley with the Brigham Young company in 1847. Figure 1 is an example of Mr. Phelps' meteorological journal entries made at Winter Quarters near Council Bluffs, Iowa, for December 1847.



Meteorological Journal for Winter Quarters near Council Bluffs Lat. 41° 17' N. Lon. 20°

Dec. 1847

Month	Day		Ther.	Weather	Wind	Ther.	Weather	Wind	Ther.	Weather	Wind	Remarks
Dec	1	W	22	part cloudy	S	50	Rainy	Windy	39	Rainy	S.W.	more than inch of rain
"	2	T	22	cloudy	N	25	cloudy	N	19	cloudy	N	
"	3	F	4	clear	S	35	cloudy	S	31	cloudy	N	
"	4	S	27	clear	N	35	clear	N	32	clear	N	
"	5	C	16	clear	N	30	clear	S	37	clear	S	
"	6	M	33	clear	S	49	clear	S	46	clear	S	
"	7	T	30	cloudy	N.E	20	cloudy	N.E	17	cloudy	N.E	new moon 3 P.M
"	8	W	5	cloud	N	28	hazy	S.W	21	hazy	S	
"	9	T	24	snow	E	34	snow	E.N.E	25	cloudy	E	snow fell 2½ inches
"	10	F	11	cloudy	S.W	36	cloudy	S	12	cloudy	S	
"	11	S	14	clear	S	40	hazy	S	22	hazy	S	
"	12	C	[illegible]	clear	N	18	clear	N	10	cold	N	
"	13	M	-9	clear	N.W	20	clear	S.W	6	clear	S.W	
"	14	T	-2	clear	S.E.	26	clear	S	19	clear	S.W	first quarter 10 P.M
"	15	W	15	clear	N	34	clear	N	27	clear	N.E	light wind
"	16	T	5	clear	N	30	clear	W	20	clear	N	
"	17	F	10	clear	N.W	32	clear	S	30	clear	S	
"	18	S	15	hazy	W	39	hazy	S	37	clear	N	high wind in P.M
"	19	C	18	hazy	N	25	hazy	W	32	clear	N.W	cold day
"	20	M	-2/3	clear	N	12	clear	N	8	clear	N	
"	21	T	10	clear	S	39	hazy	W	30	hazy	N	full moon 4½ P.M.
"	22	W	20	cloudy	W	31	clear	W	29	clear	W	
"	23	T	32	clear	N	39	clear	N	28	clear	N	
"	24	F	20	cloudy	N.E.	20	clear	N	15	clear	N	light snow
"	25	S	10	cloudy	N.W	8	clear	W	3	clear	N.W	coldest day
"	26	C	6	hazy	S	27	hazy	S	23	cloudy	S	
"	27	M	23	clear	N	37	clear	N.W	36	clear	S	
"	28	T	25	hazy	S	39	hazy	S	37	hazy	S	
"	29	W	40	cloudy	S	46	hazy	S	40	hazy	S	warm day last quarter
"	30	T	28	clear	E	40	cloudy	S.E	37	cloudy	S.E	foggy
"	31	F	34	clear	N.W	36	cloudy	N	32	cloudy	N	snow squall

Taken by W. W. Phelps with the use of Farenheit Thermometer.

Figure 1. Example of William W. Phelps' Meteorological Journal Entries made at Winter Quarters near Council Bluffs, Iowa, in December 1847.

After settling in the Salt Lake Valley, Mr. Phelps continued his weather observations and, accompanied with other valuable information, included them in the published form of the "Deseret Almanac". The first edition of the almanac was published in 1851 and contained 16 pages plus a calendar for the year giving the time of sun risings, settings, and moon changes. The almanac for the year 1860 contained 32 pages and included the following statement: "A person without an almanac is somewhat like a ship at sea without a compass; He never knows what to do nor when to do it."

As early as 1851, Mr. Phelps was furnishing the city's newspaper staff with weather and astronomical observations. The following example of Mr. Phelps' comments is from the March 8, 1851 issue: "Again Doctor, I solicit a space in your columns, to say a few words upon 'the weather', which is so wonderfully foretold by the almanac maker, or the printer's devil in many almanacs, for the vexing consolation of farmers, travelers, and some visiting women. It cannot, at this time, be exactly told who first invented this kind of prophecy, but the English sovereignty, and the Yankee nation, have held it in as much repute as the subjects of a potentate to his word:--THE KING CAN DO NO WRONG".

It was also a belief in Mr. Phelps' day, as it is by some meteorologists today, that the changes of the moon have a strong influence on the weather. This is what Mr. Phelps had to say concerning this theory: "As to the influence supposed from changes of the moon over the weather, a few words to common sense minds will suffice. I have witnessed more than six hundred changes of the moon in fifty years, during which time not less than ten thousand changes of weather have happened by night and by day, among which were snow in winter, and thundershowers in winter; and yet, before and after all, when true philosophy which is truth, was consulted, I never found a man of this world, that knew what a day would bring forth, a year, a month, or a week ahead, unless revealed by the spirit of prophecy.

"On January 12, 1857, W. W. Phelps presented to the legislature a resolution creating the office of Superintendent of Meteorological Observations. The resolution was accepted, and Mr. Phelps was appointed to fill the position. As Superintendent, Mr. Phelps furnished monthly weather memoranda and meteoric phenomena to the city's newspaper, the Deseret News. The following entry in the paper typifies his work: "Mr. Editor: Some people have short memories, and I wish to check errors. Speaking of our cold winter thus far -- permit me to say that on January 9, 1848, the thermometer stood at 11 degrees below zero at sunrise, and this year, January 9, 1849, 4 degrees above zero at sunrise and has not been down to zero yet this month. The coldest day of the winter of 1848 was March 3, when the thermometer fell to 15 degrees below zero, with a cold west wind.

W. W. Phelps died March 6, 1872, but his records were continued by his son. Subsequently, a professor, M. E. Jones, got these data from the Deseret News and corrected and summarized them into monthly tabulations using daily records. (See Figure 2)

The first official weather service for Salt Lake City, sponsored by the U.S. Government, began on March 19, 1874, under the U.S. Army Signal Service. The weather station was located in a corner room on the third floor of the "Exchange Building" or "Godbe Building" on the southeast corner of East Temple and First South Streets.

On July 1, 1891, the Weather Bureau was established and made a part of the Department of Agriculture. At this time many Army Signal Corps personnel doffed their Army uniforms and became members of the Weather Bureau. The first civilian official in charge of the Weather Bureau Office was formerly an Army official.

Through the years, the downtown Salt Lake weather office changed locations several times. In succession, the office was located at the following addresses:

March 19, 1874, to June 29, 1876: Corner room on the third floor of the "Exchange Building" or "Godbe Building" on the southeast corner of East Temple and First South Streets.

June 29, 1876, to July 31, 1891: In two rooms on the fourth floor of the Wasatch Hotel, southeast corner of Main and Second South Streets.

July 31, 1891, to March 15, 1899: Board of Trade Building at 154 West Second South Street, in rooms 50, 51, and 52 on the 5th floor.

March 15, 1899, to July 1, 1909: Southeast corner of Second South and West Temple Streets, on the 6th floor, rooms 601, 628, and 629. On July 1, 1904, the office quarters were expanded to include rooms 630 and 631.

July 1, 1909, to December 1, 1932: Boston Building on the corner of Main Street and Exchange Place occupying office rooms 1103 through 1107 in the east end of the penthouse and the east corner of the garret. Starting on May 1, 1928, an additional office was opened at the new airport west of downtown Salt Lake City.

December 1, 1932, to August 15, 1954: 501 Federal Building located at Main and Fourth South Streets.

August 15, 1954, to present: The city office was closed and its functions moved to the airport office.

Form No. 1078—Met'l.

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

Station, Salt Lake City, Utah

Data Precipitation

	January	February	March	April	May	June	July	August	September	October	November	December	
1847	—	—	—	—	—	—	—	—	—	—	—	—	10.00
1848	—	—	—	—	—	—			—				12.00
1849	—	—	—	—	—	—	—	—	—	—	—	—	11.50
1850	—	—	—	—	—	—	0	1.50	—	1.00	1.00	1.50	10.00
1851	.25	1.50	.60	1.50	2.50	0	0	0	—	—	.50	.50	8.00
1852	.10	0	1.50	.25	.50	.10	2.00	—	.20	0	4.00	2.40	12.50
1853	.25	0	1.80	2.00	2.50	2.50	1.00	—	—	0	.80	.75	12.00
1854	1.00	1.50	—	—	1.50	—	2.00	2.50	1.75	2.25	.25	.55	14.00
1855	225	.50	2.50	1.00	.50	.25	0	.35	.35	1.00	2.50	4.00	15.20
1856	1.00	.50	.50	2.00	3.00	.01	.50	.50	.60	2.00	2.50	4.50	17.61
1857	5.95	.63	.39	.19	.83	1.00	.64	.85	.57	1.10	2.80	.04	15.49
1858	.30	1.37	2.35	2.78	.70	.78	.24	.53	.15	3.78	1.24	.62	14.44
1859	.65	3.88	3.33	1.43	1.85	.11	1.07	.13	1.58	.22	3.85	.70	18.90
1860	.45	.09	.77	1.14	2.75	.84	.29	.69	.22	118	.62	2.78	11.35
1861	1.20	1.15	204	1.34	1.10	.31	.16	1.47	.25	0	1.76	3.00	13.78
1862	281	.30	200	1.83	.56	2.36	.20	1.18	.76	.12	.07	1.00	13.19
1863	1.08	1.41	.66	2.75	.36	.30	0	.04	.88	0	1.00	1.63	10.11
1864	2.00	.65	252	1.38	1.95	.15	0	1.25	.72	.28	1.19	4.54	17.13
1865	1.22	3.00	2.28	.54	.26	.75	1.74	.61	1.50	1.90	.42	6.50	19.82
1866	2.00	1.60	2.60	2.60	2.07	5.33	.87	2.00	.25	1.80	2.25	4.36	27.73
1867	—	1.75	—	—	3.50	1.25	.30	—	—	—	—	—	—
1868													
1869													
1870													
1871													
1872													
1873													
1874													
1875													
1876													
1877													
ave													
Sums													
Means													

1792–1892

W. W. Phelps kept original record
followed by his son Phelps
Prof Jones got them Deseret News + corrected
them from daily record.

Figure 2.

The Wright brothers ushered in the flying age and with it the demand for supporting airports around the country. As mentioned above, the Weather Bureau expanded their mode of operation to meet this challenge. On May 1, 1928, the Weather Bureau established a first-order weather station at the Salt Lake Municipal Airport, 3-3/4 miles west-northwest of the downtown Federal Building at latitude 400 46' and longitude 1110 58'. The station was located in a small house in the southeast corner of the airport complex, east of the United Airlines hanger. Elevation at the observing site was 4,222 feet ASL.

The airway and pibal observations began on the opening date with the first weather observation being taken at 6:00 a.m., May 1, 1928. The wind anemometer was located 47 feet above the ground. The thermometers were installed in a standard Weather Bureau instrument shelter with the thermometers 5 feet above the ground. The precipitation gages were placed approximately 6 feet west of the shelter with the base on the ground and top or opening 3 feet above the ground. On June 11, 1933, the weather-observing equipment was moved 800 feet north of the original location to the roof of the Airport Administration Building which was a two-story structure. The temperature apparatus was installed in a standard Weather Bureau instrument shelter with the thermometer being located 5 feet above the roof and 33 feet above ground level. The rain gages were installed on the same roof, about 20 to 25 feet immediately north of the instrument shelter. The wind instrument was 18 feet above the second-story roof or 46 feet above ground level.

During the winter of 1943-1944, a third floor was added to the Administration Building. Although the instrument shelter was able to remain in the second-story roof, just south of the new third story, the rain gages were moved to the roof of the third floor on April 1, 1944, making them 41 feet above ground level.

On July 2, 1954, the station was moved to the one-story Federal Aviation Agency - Weather Bureau Office building at 174 North 2300 West Streets or some 325 feet southeast of the previous location. The wind instruments were 33 feet above the ground, temperature instruments 6 feet above the ground, and rain gages 3 feet above the ground.

On July 29, 1960, automatic temperature and wind-measuring equipment were moved to near the major runway 3,600 feet northwest of the Government Building.

On March 8, 1978, the station was moved to its present location in the new Executive Terminal Building at 337 North 2370 West Streets, approximately 1/4 mile north of the 1954 location. Wind, temperature, dew point, and visibility measuring equipment are remote sensors located adjacent to the main airport runway.

Precipitation, solar radiation, and standby temperature measuring equipment are located about 300 feet east of the station.

Ceilometer equipment, which automatically observes and records cloud heights, was first installed at the airport on March 5, 1946. The projector was located 1,463 feet north of the observing quarters, and the ceilometer scanner was located on the roof of the first floor of the Administration Building about 80 feet north of the observing quarters. On October 31, 1958, a rotating beam ceilometer, with a baseline of 800 feet, was installed 1/4 mile south of the main airport runway, and then on December 12, 1976, relocated to be near the south end of the main airport runway about 4,700 feet west-northwest of the Forecast Office.

The present state-of-the-art of both observing and forecasting the weather is constantly being re-evaluated for improvement. New computer-age technology is replacing the older, and often times, cumbersome methods of producing the various weather products issued to public and special user groups. Weather forecasting programs have been developed that are especially tailored for special problem areas. The fire-weather forecasting program is a typical example. Specifically trained meteorologists utilize mobile self-contained weather stations and report directly to forest or range fire fighting crews. They give on-the-spot observations and forecasts of wind direction and speed, temperature, humidity, and other selected parameters required for maximum support to the fire fighting crews. Other special weather support programs include those in fruit-frost cooperative observing and forecasting, air pollution, aviation, and local forecasting. All these are in addition to regular public service duties.

Climatology is an input in many of these programs. Certain combinations of pressure, wind, moisture, modified by topographical combinations yield specific characteristics of "weather". The only problem is that the atmosphere is so vast in its global scale that local combinations of specific weather yielding parameters are very difficult to duplicate. "Man" by his very existence is constantly changing the landscape--laying miles or acres of pavement and cement, building heating and cooling systems, and other modern-day miracle aids--and in the process influencing Mother Nature's natural local temperature and wind circulation patterns.

IV. SELECTED HIGHLIGHTS OF THE SALT LAKE CITY AIRPORT WEATHER RECORDS

The longest period of extremely hot days (consecutive days with maximum temperatures 95 degrees or higher) was 20 days from July 11 through July 30, 1960, and another 20-day period from July 23 through August 11, 1978.

The earlier episode takes the record as the hottest extended period on record. During that 20-day period, there were 9 consecutive days (July 14 through July 22) followed by 6 consecutive days (July 24 through July 29) in which the daily maximum temperature was over 100 degrees. The average daily maximum during this 20-day period was 101.3 degrees. The hottest day was on July 26 when the high was 107 degrees which has remained the hottest day on record at the Salt Lake City Airport. Minimum temperatures during the same 20-day period ranged from 57 degrees on the 12th to 74 degrees on both the 27th and 28th.

In the later extended hot period (July 23 through August 11, 1978), there were 6 consecutive days with 100 degrees or higher. The average daily maximum was 98.4 degrees and minimum temperatures during the period were mostly in the 60s with the lowest of 58 degrees on the morning of July 23, and the warmest of 71 degrees on the morning of July 28. The warmest maximum during this period was 103 degrees on July 24, the anniversary day of when the Mormon pioneers entered the Salt Lake Valley. The pioneers arrived during the climatological hottest time of the year in the Salt Lake Valley.

Both of these extended hot periods were finally broken by cold frontal passages and an outbreak of showers or thundershowers. During the 1960 hot spell, the maximum of 98 degrees on July 30 lowered to only 90 degrees on July 31 when a cold front moved across the Salt Lake Valley. Rainfall at the airport on July 31 was .02 inches. At the end of the 1978 hot spell, the maximum of 98 degrees on August 11 lowered to only 85 degrees on August 12. Again, a cold front moved through the Salt Lake Valley, this time dumping .72 inches of rain at the airport.

When the all-time high temperature of 107 degrees occurred on July 26, 1960, the surface winds, for the most part, were southerly 5-12 mph through the night and morning hours shifting to northerly 5-9 mph during the afternoon. At 3:00 p.m., the temperature was 103 degrees with 8/10 of the sky covered by a combination of cumulonimbus and cirrus type clouds. The clouds thinned out during the next couple hours, and the record maximum temperature of 107 was reached. The morning minimum on the 26th of July was 63 degrees, which was only one degree warmer than the normal minimum for the date. Increasing cloudiness the following day, July 27, accounted for a slight drop in the maximum down to 104 degrees. Maximum temperatures continued to decrease the next two days--down to 101 on the 28th, and finally on the 29th, down to an even 100 degrees.

February 9, 1933, was the date of the lowest temperature ever recorded at the Salt Lake Airport--30 degrees below zero. The mercury managed to climb to 8 degrees above zero for the afternoon maximum. It was cold again the next day, February 10, with a minimum of 26 degrees below zero. But on February 11, the short cold snap was broken when a snow storm moved over the area and the minimum temperature rose to 1 degree above zero.

The maximum peak wind speed gust of 94 mph occurred on June 3, 1963, during passage of a very strong cold front that was accompanied by heavy thundershowers. During the early morning of the 3rd, the surface wind was southerly with a brief wind gust to 25 mph at 4:00 a.m. By 5:00 a.m., the wind shifted and blew lightly from the north, then by 8:00 a.m. was blowing from the south again at 10 to 18 mph. Cumulonimbus (thunderhead clouds) developed by 11:00 a.m., the surface wind became variable 10 to 18 mph, and light showers developed over the area. The cold front struck the airport at 3:05 p.m. accompanied by heavy thundershowers with the surface wind shifting to westerly and increasing to 58 mph with gusts to 94 mph. The peak gust of 94 mph lasted but a brief moment, but wind gusts ranging from 40 to 70 mph were clocked for about 7 minutes. The wind gradually subsided to an average of 15 to 25 mph by 3:30 p.m.

This same storm of June 3, 1963, caused considerable damage to a small area when it spawned a tornado in Bountiful, Utah, just to the north of Salt Lake City. The tornado touched down around 3:00 p.m. near the Bountiful Elementary School, with an estimated $20,000 damage to the school. The tornado moved toward the east northeast for about 1,500 to 2,000 feet, then lifted off the ground. The funnel then came down again a mile or so east northeast of the school. Debris from the school was found 5,000 feet northeast of the school. No lives were lost and no injuries were reported.

The greatest seasonal snowfall (totaled during a 12 month period that begins July 1 and ends June 30) fell during the 1951-52 season and totaled 117.3 inches. The second highest seasonal snowfall was 110.8 inches recorded during the 1973-74 season and the third highest seasonal snowfall was 98.0 inches during the 1983-84 season. The mean seasonal snowfall for the 58 season period from 1928-29 to 1985-86 is 58.9 inches.

The season with the least number of days with snowfall was 1939-40. There were only 9 days during the entire season that experienced snowfall of 0.1 inch or more. This was in sharp contrast to the record-setting 1973-74 season when there were 52 days with 0.1 inch or more of snowfall. The average number of days with snowfall each season is 34.

The snowiest month of the year appears to be January with an average of 9 days with snowfall of 0.1 inch or more, and with an average monthly snowfall total of 13.2 inches. However, the greatest monthly snowfall total at the Salt Lake Airport was 41.9 inches that fell in March 1977. It may be surprising to many to note that significant amounts of snow can fall as late as April. In April 1974, a total of 26.4 inches of snow fell at the Salt Lake

Airport. This not only set the record for the most snow ever accumulated in the month of April, but was also the greatest monthly snowfall for the entire 1973-74 season. April 1984 was also a very snowy month with a total accumulation of 25.1 inches.

The greatest snowfall in any 24 hour period was 18.4 inches that fell October 17-18, 1984. This snowfall not only broke the previous 24-hour record of 18.1 inches set in December 1972, but it also crushed the previous October record of 8.5 inches also set in 1972. This record-setting snow storm closed schools and sent tree limbs, still with their fall foliage, crashing into power lines. Many electric meters were actually ripped off homes by the falling limbs. Electricity was blacked out to an estimated 20,000 homes and businesses. It was not until 3 days after the snowstorm that the utility company finally got electrical power completely restored. The cost was estimated to be at least $500,000. City officials estimated the cost for cleaning up fallen and broken tree limbs to be several thousand dollars. In addition to the thousands of trees damaged on private property, it was estimated that at least 10,000 trees were damaged on city property. Slippery roads caused by the snowfall caused a chain reaction accident on the freeway just north of Salt Lake City involving more than 50 vehicles and sending 16 people to the hospital. This snowfall was enhanced in a 25 mile wide band along the Wasatch Front. Very unseasonably cold northwest winds blew across the mid-50 degree temperature surface water of the Great Salt Lake. This resulted in snowfall enhancement along and down wind of the Great Salt Lake. Section V below explains this local topography effect upon the Salt Lake weather.

The wettest calendar year was 1983 when 24.26 inches of precipitation was recorded. The second wettest was just a year earlier, 1982, with an equivalent liquid water total of 22.86 inches. The driest year was 1979 when only 8.70 inches of precipitation fell. The normal (based on the period 1951-1980) calendar year precipitation total is 15.31 inches. There is an annual average of 88 days during which 0.01 inch or more of precipitation falls.

April has the distinction of having the highest average monthly precipitation with 2.21 inches followed by March with an average of 1.72 inches. The greatest total monthly precipitation of 7.04 inches fell in September 1982 when moisture from the remains of Hurricane Olivia moved north through Utah. The driest month of the year is July with a monthly precipitation average of only 0.72 inches. The next driest is September with a monthly average of 0.89 inches.

The maximum 24 hour precipitation (not confined to a calendar day) ever recorded at the Salt Lake Airport was 2.41 inches on April 22-23, 1957. The maximum one hour precipitation of 1.94 inches was recorded during heavy thundershowers between noon and

1:00 p.m. on July 13, 1962. On that same day, hailstones up to one half inch in diameter fell, and the total 24 hour rainfall was 2.28 inches.

Thundershowers on September 5, 1970, gave 2.19 inches of precipitation which was the greatest calendar day precipitation ever recorded at the airport. The storms on this day were associated with a strong cold front. High winds lashed across the area, causing hundreds of traffic accidents. Surface wind gusts to 40 mph were observed at the airport, and gusts to 55 mph were reported elsewhere in the Salt Lake Valley. Deseret News reported that all intersections on the 7th East thoroughfare were flooded during the early morning hours, as were many other intersections in the city.

V. LOCAL TOPOGRAPHY EFFECTS UPON THE SALT LAKE WEATHER

Snowfall enhancement along and downwind of the Great Salt Lake is often observed. On occasion it appears that the snow area extends continuously from the lee shores of the lake to the windward slopes of the nearby mountains. The theory of this phenomenon is as follows. The Great Salt Lake, due to its high salt content, never freezes during the winter. Cold air masses moving from the Pacific or out of Canada during the winter months are sometimes much colder than the water surface of the lake. As these cold air masses pass over the lake, the air is modified by the absorption of heat and moisture rising off the surface of the lake and becomes more unstable. An example would be air carried by west to northwest winds blowing across the Great Salt Lake in the rear of a winter low pressure system gaining both moisture and instability over the water. Then the induced vertical motion due to differential friction as the air moves off the water to land results in bands of heavy snow in the valley. Nearby mountain ranges force the air to be cooled by the orographic lift up the mountain slopes. This orographic lift often prolongs and increases precipitation along the windward slopes of the mountains. One such lake-effect snow storm occurring October 17-18, 1984 was documented by WSFO Salt Lake City forecaster David Carpenter in NOAA Technical Memorandum NWS WR-190.

The surface wind pattern around the Salt Lake Valley and adjacent bench areas is greatly influenced by local topography. For example, the Great Salt Lake is responsible for local lake breezes and the surrounding mountains and valleys for canyon winds.

The Great Salt Lake breeze is caused by the temperature difference of the colder lake surface and the warmer adjacent land when it is heated by the sun. Because the air over the land is warmer, it rises and is replaced by the cooler air from the lake surface. This breeze usually blows on relatively calm, sunny, summer days, and alternates with the oppositely directed nighttime land breeze.

Canyon breezes occur almost every night when the sky is clear or partly cloudy. They are the result of the radiational cooling of the surface layer of air on the mountain slopes. This air cools much faster than air at the same level in the free atmosphere over the valley and, hence, sinks. The air aloft flowing toward the mountain slope to replace this sinking air gives a circulation similar to the sea-breeze circulation. Such breezes usually do not extend more than a few miles into the valleys and rarely reach excessive speeds. In fact, during the summer these cool winds are a refreshing change from the heat of the day. Only when this nocturnal cooling process is reinforced by large-scale circulation do the winds reach high speeds.

The strongest canyon winds develop when the ambient pressure field augments the normal mountain-valley winds. This takes place when the pressure is high over Wyoming and significantly lower in Utah and/or Arizona. Occasionally the cold polar or arctic air associated with high pressure in Wyoming is deep enough to spill over the mountains. Sometimes this can result in jet-effect easterly winds blowing out of the mouths of canyons and steep slopes of the Wasatch Mountains into the nearby plains. In extreme cases, these winds can exceed hurricane force. They are mainly limited to the mouths of the canyons, especially in winter, but in some circumstances these winds can extend into the valley. Canyon winds can cause snow to drift over heavily traveled highways, break tree limbs, topple structures, and, in general, make life unpleasant.

An example of very strong canyon winds occurred on April 4-5, 1983. In this instance, a very strong high pressure system moved into Wyoming with significantly lower pressure in southern Utah, Arizona, and Nevada. Ferocious winds developed and roared out of the mouths of the canyons along the Wasatch Front Range in northern Utah. One gust of wind to 104 mph was recorded at Hill Air Force Base and wind gusts to 65 mph or more were common. Five large electrical transmission structures located between Farmington and Layton, Utah, were blown down and tangled like match sticks. The high winds turned power lines into electrical spaghetti. At least 12 semi-trailer trucks were overturned by the high winds on Interstate 15 in Davis County. A south bound Union Pacific freight train had 12 of its 36 flatbed cars derail, each of which was carrying loaded truck trailers. Trees, some as large as 100 feet tall, were uprooted. Some of them tore out power lines and damaged nearby property.

VI. AIR POLLUTION AND TRAPPED AIR

Air pollution caused by stagnant air trapped under temperature inversions is another big part of the Salt Lake weather regime. In Salt Lake City, the worst air stagnation occurs with stationary high pressure, both at the surface and aloft, and mainly in the months of November through February. Under this synoptic pattern, the wind is largely controlled by local topography rather than ambient pressure gradients; hence, it is very light and subject to diurnal variation. These light winds, when combined with frequent snow cover during the winter months, result in strong nighttime radiational cooling. At the same time, there is usually warm-air advection aloft. This creates a strong surface-based temperature inversion under which cold, stable air is trapped in the valley. This air often becomes very stagnant. Such a stagnant layer is generally confined to below 6,000 feet ASL and diurnal heating is frequently unable to activate much vertical mixing in the stagnant layer. Under these conditions, bench locations above 6,000 feet ASL surrounding the valley often enjoy good ventilation or movement of air and may be much warmer than valley locations. This is due to warm advection and relatively mild temperatures above the lower temperature inversion as well as the fact that the wind above 6,000 feet ASL is usually still controlled by pressure gradients and frequently stronger than the lower level winds.

There are situations that can allow some air mixing in the Salt Lake Valley that may present a problem at the surrounding higher elevations. This can happen when there is a subsidence inversion or stable layer of air between about 6,000 and 12,000 feet. Subsidence is a descending motion of air in the atmosphere. A subsidence inversion is a temperature inversion produced by the adiabatic warming of this layer of subsiding air. In an adiabatic process, compression or descending motion always results in warming, rising motion results in expansion and cooling. Surface heating usually allows mixing of the air to the base of this stable layer aloft, which gives a moderate mixing depth of air in the valley. However, if the base of the stable layer is at or just above the surrounding mountain areas, surface heating may not affect it so that it may severely restrict the vertical transport of pollutants.

VII. SOLAR ENERGY AND SKY COVER

Salt Lake City is one city out of a 38-station network operated by the National Oceanic and Atmospheric Administration (NOAA) that takes solar radiation observations. The measuring instrument is called a pyranometer which measures direct and diffuse radiation on a horizontal surface. Diffuse radiation is scattered beam solar radiation, and direct radiation is parallel beam radiation from the sun.

Solar energy is in the form of electromagnetic waves that travel through space at 186,000 miles per second. Some of these waves are visible as light, but most are either too short to be seen, such as ultraviolet rays, or too long, such as infrared rays. These waves arrive at the top of the earth's atmosphere carrying energy at a near constant rate of 444 BTUs per hour for every square foot of area. Some of this energy is absorbed by the earth and its atmosphere, but a far greater part is returned to space again by reflection from clouds, or scattering caused by the radiation being deflected by small particles or air molecules and sent out in all directions. The average amount falling over a year's time on a square foot of ground in the United States is only about 13% of the amount that arrived at the top of the earth's atmosphere or about 58 BTUs per hour (17 watts).

The amount of energy received at a given location is also dependent on the angle of the sun and the length of day. It is important to note that 20 minutes of sunshine at noon delivers much more energy than 20 minutes near sunrise or sunset.

The depletion of solar radiation is greatest by reflection from the upper surface of clouds. On some days, 80 percent of the possible sunlight energy may be reflected back into space. It has been estimated that the total energy received at the surface of the earth during completely overcast days is only 22 percent of the possible sunshine.

The average annual amount of sky cover at the Salt Lake Airport (sunrise to sunset), based on a range of 0/10 for no clouds or obscuring phenomena to 10/10 for overcast conditions, is 5.5/10. The months with the highest average amount of sky cover are December and January with 7.1/10 and 7.2/10 respectively. The months with the lowest average sky cover are July and September with both averaging 3.5/10, followed closely by August with 3.6/10.

Based on the definition that the sky is cloudy with 8/10 to 10/10 of cloud cover, partly cloudy with 4/10 to 7/10 cloud cover, and clear with 0/10 to 3/10 cloud cover; there is an annual average of 134 cloudy days at the Salt Lake Airport, 103 partly cloudy days, and 128 clear days. These values are somewhat misleading because they are based on total cloud cover without any distinction between opaque and thin clouds. Some of the days listed in our climatological data as cloudy may have experienced only high, thin clouds covering 8/10 to 10/10 of the sky with but only a few tenths of these clouds actually dense enough to block out the sun or sky.

Because solar energy is being increasingly emphasized as an alternative to fossil fuels, a more meaningful statistic than amount of sky cover may be the percent of possible sunshine received. At the Salt Lake Airport, the annual average percent of possible sunshine received is 70 percent. The sunniest days of the year are in July and September with each of these months receiving 84 percent of possible sunshine. The lowest average amount of possible sunshine is received in December with 40 percent followed by January with 48 percent.

Sunlight is usually measured in footcandles, the illuminance provided by a light source of one candle at a distance of one foot and only the visible portion of the solar spectrum is used. Full sunlight, when the sun is at its zenith, produces an illuminance of the order of 10,000 footcandles on a horizontal surface compared to full moonlight, which provides an illuminance of only about 0.02 footcandles.

The energy from this sunlight is measured in kilojoules per square meter or the langley unit which is defined as a unit of energy per unit area and is equal to one gram-calorie per square centimeter. To convert kilojoules to langleys, you multiply the kilojoule value by 0.02390.

An accurate conversion of these illumination/radiation factors is impossible, but a rough comparison on a cloudy or a cloudless day is as follows: to convert langley per minute to footcandles on a cloudless day, multiply by 6,700. To convert langleys per minute to footcandles on a cloudy day, multiply by 7,000.

The mean daily solar radiation (in langleys) at Salt Lake City by month is as follows: January 163, February 256, March 354, April 479, May 570, June 621, July 620, August 551, September 446, October 316, November 204, and December 146 for an annual average of 394.

VIII. ACKNOWLEDGMENTS

Mr. Wilbur E. Figgins (now retired) is responsible for the original research and preparation of this document. Since his retirement in 1985 until the fall of 1989, Alexander Smith of the Salt Lake City WSFO staff undertook the responsibility of keeping it updated as well as computerizing much of the content. Craig Schmidt was responsible for the maintenance and reformatting of the document through September of 1991. James Cisco took over Craig Schmidt's responsibilities thereafter.

We would like to thank Mr. Bill Alder, Meteorologist in Charge, Salt Lake City Weather Service Forecast Office, for his encouragement, support, and advice which helped us complete this project. We are very grateful to Mr. L. W. Snellman, former Chief, Scientific Services Division, Western Region Headquarters, for his initial review, suggestions, candor, expertise, and encouragement to pursue the project. Additionally, our gratitude to Mr. Dean Jackman, Deputy Meteorologist in Charge, Salt Lake City WSFO, for his assistance in historical research, and for the use of information from his air pollution studies. Finally, our thanks to all individuals, past and present, whose attempts at organizing these records made our work easier.

IX. REFERENCES

Bowen, Walter Dean, 1958: Versatile W. W. Phelps. Thesis, Brigham Young University, Provo, Utah.

Byers, Horace Robert, SC.D.: Synoptic and Aeronautical Meteorology, pp. 3-12.

Jannuzzi, John A., 1978: Solar Radiation. *NOAA Technical Memorandum*, NWS WR-134, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, National Weather Service Western Region.

Richardson, Arlo E., and Mitchell, Val, 1963: Tornado Report on June 3, 1963, at Bountiful, Utah.

Stout, Hosea: Diary of Hosea Stout, op.cit., January 12, 1857, Vol. 6, p. 395.

Deseret News: 1851 February 8, Vol. 1, No. 26, p. 202.
1851 March 8, Vol. 1, No. 28, pp. 219-220.
1859 January 19, p. 198.
1859 November 16, Vol. 9, No. 57, p. 296.

Narrative Climatological Summary. NOAA Environmental Data and Information Service, National Climatic Center, *Local Climatological Data*, Asheville, North Carolina.

X. SLC OBSERVATION SITE (WEATHER SERVICE FORECAST OFFICE) IN RELATION TO SL COUNTY

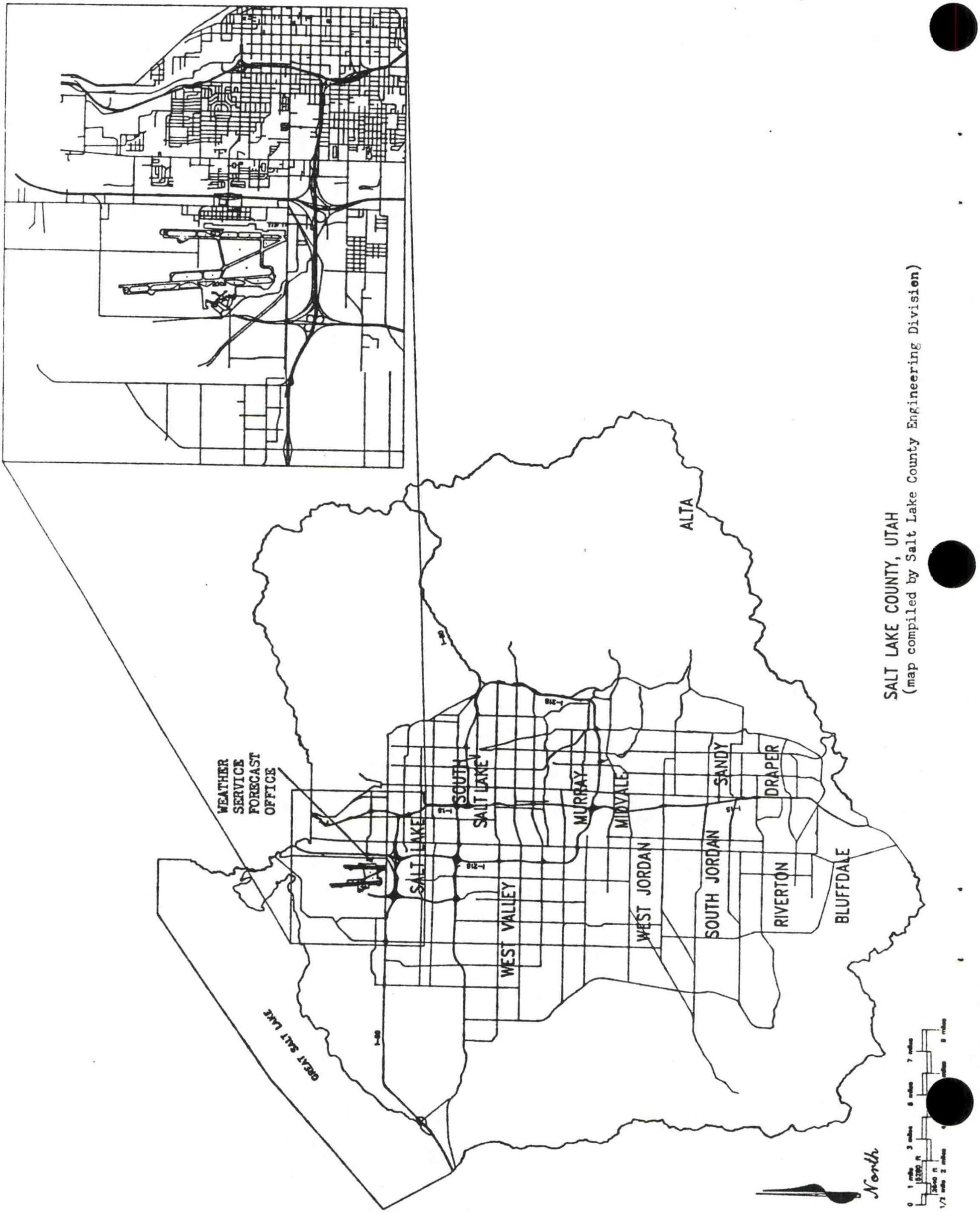


FIGURE 3

XI. TABLE 1.

SUNRISE AND SUNSET AT SALT LAKE CITY, UTAH

MOUNTAIN STANDARD TIME

NO. 1297

DAY	JAN.		FEB.		MAR.		APR.		MAY		JUNE	
	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.
1	7 52	5 11	7 38	5 45	7 02	6 19	6 12	6 52	5 27	7 24	4 59	7 53
2	7 52	5 12	7 37	5 46	7 01	6 20	6 10	6 53	5 25	7 25	4 58	7 53
3	7 52	5 13	7 36	5 48	6 59	6 21	6 09	6 54	5 24	7 26	4 58	7 54
4	7 52	5 14	7 35	5 49	6 58	6 22	6 07	6 56	5 23	7 27	4 58	7 55
5	7 52	5 15	7 34	5 50	6 56	6 23	6 05	6 57	5 22	7 28	4 57	7 56
6	7 52	5 15	7 33	5 51	6 55	6 24	6 04	6 58	5 21	7 29	4 57	7 56
7	7 52	5 16	7 32	5 53	6 53	6 26	6 02	6 59	5 19	7 30	4 57	7 57
8	7 52	5 17	7 31	5 54	6 51	6 27	6 01	7 00	5 18	7 31	4 56	7 57
9	7 52	5 18	7 30	5 55	6 50	6 28	5 59	7 01	5 17	7 32	4 56	7 58
10	7 52	5 19	7 29	5 56	6 48	6 29	5 57	7 02	5 16	7 33	4 56	7 58
11	7 52	5 21	7 27	5 58	6 47	6 30	5 56	7 03	5 15	7 34	4 56	7 59
12	7 51	5 22	7 26	5 59	6 45	6 31	5 54	7 04	5 14	7 35	4 56	7 59
13	7 51	5 23	7 25	6 00	6 43	6 32	5 53	7 05	5 13	7 36	4 56	8 00
14	7 51	5 24	7 24	6 01	6 42	6 33	5 51	7 06	5 12	7 37	4 56	8 00
15	7 50	5 25	7 22	6 02	6 40	6 34	5 49	7 07	5 11	7 38	4 56	8 01
16	7 50	5 26	7 21	6 04	6 38	6 35	5 48	7 08	5 10	7 39	4 56	8 01
17	7 49	5 27	7 20	6 05	6 37	6 37	5 46	7 09	5 09	7 40	4 56	8 02
18	7 49	5 28	7 18	6 06	6 35	6 38	5 45	7 10	5 08	7 41	4 56	8 02
19	7 48	5 29	7 17	6 07	6 33	6 39	5 43	7 11	5 07	7 42	4 56	8 02
20	7 48	5 31	7 16	6 08	6 32	6 40	5 42	7 12	5 06	7 43	4 56	8 02
21	7 47	5 32	7 14	6 10	6 30	6 41	5 41	7 13	5 06	7 44	4 56	8 03
22	7 46	5 33	7 13	6 11	6 28	6 42	5 39	7 14	5 05	7 45	4 57	8 03
23	7 46	5 34	7 11	6 12	6 27	6 43	5 38	7 15	5 04	7 45	4 57	8 03
24	7 45	5 35	7 10	6 13	6 25	6 44	5 36	7 16	5 03	7 46	4 57	8 03
25	7 44	5 37	7 08	6 14	6 23	6 45	5 35	7 18	5 03	7 47	4 57	8 03
26	7 44	5 38	7 07	6 15	6 22	6 46	5 33	7 19	5 02	7 48	4 58	8 03
27	7 43	5 39	7 05	6 17	6 20	6 47	5 32	7 20	5 01	7 49	4 58	8 03
28	7 42	5 40	7 04	6 18	6 18	6 48	5 31	7 21	5 01	7 50	4 59	8 03
29	7 41	5 42	7 03	6 19	6 17	6 49	5 29	7 22	5 00	7 50	4 59	8 03
30	7 40	5 43			6 15	6 50	5 28	7 23	5 00	7 51	4 59	8 03
31	7 39	5 44			6 14	6 51			4 59	7 52		

DAY	JULY		AUG.		SEPT.		OCT.		NOV.		DEC.	
	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.
1	5 00	8 03	5 24	7 44	5 54	7 01	6 24	6 10	6 58	5 24	7 32	5 01
2	5 00	8 03	5 25	7 43	5 55	6 59	6 25	6 09	6 59	5 23	7 34	5 01
3	5 01	8 03	5 26	7 41	5 56	6 57	6 26	6 07	7 00	5 22	7 35	5 01
4	5 02	8 03	5 27	7 40	5 57	6 56	6 27	6 05	7 02	5 21	7 36	5 00
5	5 02	8 02	5 28	7 39	5 58	6 54	6 28	6 04	7 03	5 20	7 36	5 00
6	5 03	8 02	5 29	7 38	5 59	6 52	6 29	6 02	7 04	5 19	7 37	5 00
7	5 03	8 02	5 30	7 37	6 00	6 51	6 30	6 01	7 05	5 18	7 38	5 00
8	5 04	8 01	5 31	7 35	6 01	6 49	6 31	5 59	7 06	5 17	7 39	5 00
9	5 05	8 01	5 32	7 34	6 02	6 47	6 32	5 57	7 07	5 16	7 40	5 00
10	5 05	8 01	5 33	7 33	6 03	6 46	6 33	5 56	7 09	5 15	7 41	5 00
11	5 06	8 00	5 34	7 32	6 04	6 44	6 34	5 54	7 10	5 14	7 42	5 00
12	5 07	8 00	5 35	7 30	6 05	6 42	6 36	5 53	7 11	5 13	7 43	5 00
13	5 07	7 59	5 36	7 29	6 06	6 41	6 37	5 51	7 12	5 12	7 43	5 01
14	5 08	7 59	5 37	7 28	6 07	6 39	6 38	5 49	7 13	5 11	7 44	5 01
15	5 09	7 58	5 38	7 26	6 08	6 37	6 39	5 48	7 15	5 10	7 45	5 01
16	5 10	7 57	5 39	7 25	6 09	6 36	6 40	5 46	7 16	5 09	7 46	5 01
17	5 11	7 57	5 40	7 23	6 10	6 34	6 41	5 45	7 17	5 08	7 46	5 02
18	5 11	7 56	5 41	7 22	6 11	6 32	6 42	5 43	7 18	5 08	7 47	5 02
19	5 12	7 55	5 42	7 21	6 12	6 31	6 43	5 42	7 19	5 07	7 47	5 03
20	5 13	7 55	5 43	7 19	6 13	6 29	6 44	5 41	7 20	5 06	7 48	5 03
21	5 14	7 54	5 44	7 18	6 14	6 27	6 45	5 39	7 22	5 06	7 49	5 03
22	5 15	7 53	5 45	7 16	6 15	6 25	6 47	5 38	7 23	5 05	7 49	5 04
23	5 16	7 52	5 46	7 15	6 16	6 24	6 48	5 36	7 24	5 04	7 50	5 04
24	5 17	7 51	5 47	7 13	6 17	6 22	6 49	5 35	7 25	5 04	7 50	5 05
25	5 17	7 51	5 48	7 12	6 18	6 20	6 50	5 33	7 26	5 03	7 50	5 06
26	5 18	7 50	5 49	7 10	6 19	6 19	6 51	5 32	7 27	5 03	7 51	5 06
27	5 19	7 49	5 50	7 09	6 20	6 17	6 52	5 31	7 28	5 02	7 51	5 07
28	5 20	7 48	5 50	7 07	6 21	6 15	6 53	5 29	7 29	5 02	7 51	5 08
29	5 21	7 47	5 51	7 05	6 22	6 14	6 55	5 28	7 30	5 02	7 52	5 08
30	5 22	7 46	5 52	7 04	6 23	6 12	6 56	5 27	7 31	5 01	7 52	5 09
31	5 23	7 45	5 53	7 02			6 57	5 26			7 52	5 10

Add one hour for Daylight Saving Time if and when in use.

Prepared by
NAUTICAL ALMANAC OFFICE
UNITED STATES NAVAL OBSERVATORY
WASHINGTON, D.C. 20390

U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON : 1965

XII. **TABLE 2.**

Normals, Means, And Extremes

Month	Temperatures °F Normal Daily maximum	Daily minimum	Monthly	Extremes Record highest	Year	Record lowest	Year	Normal Degree days Base 65 °F Heating	Cooling
(a)				55		55			
J	37.4	19.7	28.6	62	1982	-22	1949	1128	0
F	43.7	24.4	34.1	69	1972	-30	1933	865	0
M	51.5	29.9	40.7	78	1960	2	1966	753	0
A	61.1	37.2	49.2	85	1980	14	1936	474	0
M	72.4	45.2	58.8	93	1958	25	1965	220	28
J	83.3	53.3	68.3	104	1979	35	1962	53	152
J	93.2	61.8	77.5	107	1960	40	1968	0	388
A	90.0	59.7	74.9	104	1979	37	1965	0	311
S	80.0	50.0	65.0	100	1979	27	1965	97	97
O	66.7	39.3	53.0	89	1963	16	1971	377	5
N	50.2	29.2	39.7	75	1967	-14	1955	759	0
D	38.9	21.6	30.3	67	1969	-21	1932	1076	0
YR	64.0	39.3	51.7	107	JUL 1960	-30	FEB 1933	5802	981

Month	Precipitation in inches: Water equivalent Normal	Maximum monthly	Year	Minimum monthly	Year	Maximum in 24 hrs.	Year	Snow, Ice pellets Maximum monthly	Year	Maximum in 24 hrs.	Year
(a)		55		55		55		55		55	
J	1.35	3.14	1940	0.09	1961	1.36	1953	32.3	1937	10.7	1980
F	1.33	3.22	1936	0.12	1946	1.05	1958	27.9	1969	8.7	1944
M	1.72	3.97	1983	0.10	1956	1.83	1944	41.9	1977	15.4	1944
A	2.21	4.90	1944	0.45	1981	2.41	1957	26.4	1974	16.2	1974
M	1.47	4.76	1977	T	1934	2.03	1942	7.5	1975	6.4	1975
J	0.97	2.93	1947	0.01	1946	1.88	1948	T	1982	T	1982
J	0.72	2.57	1982	T	1963	2.35	1962	0.0		0.0	
A	0.92	3.66	1968	T	1944	1.96	1932	0.0		0.0	
S	0.89	7.04	1982	T	1951	2.30	1982	4.0	1971	4.0	1971
O	1.14	3.91	1981	0.00	1952	1.47	1947	16.6	1971	8.5	1971
N	1.22	2.57	1934	0.01	1939	1.13	1954	19.5	1973	11.0	1930
D	1.37	4.37	1983	0.08	1976	1.82	1972	35.2	1972	18.1	1972
YR	15.31	7.04	SEP 1982	0.00	OCT 1952	2.41	APR 1957	41.9	MAR 1977	18.1	DEC 1972

Month	Relative humidity pct. Hour 05 (Local time)	Hour 11	Hour 17	Hour 23	Wind Mean speed m.p.h.	Prevailing direction (thru 1963)	Fastest mile Speed m.p.h.	Direction	Year	Pct. of possible sunshine	Mean sky cover, tenths, sunrise to sunset
(a)	24	24	24	24	54	32	48	48		45	48
J	78	70	68	77	7.7	SSE	59	NW	1980	46	7.3
F	77	63	58	76	8.2	SE	56	SE	1954	55	7.1
M	71	52	46	68	9.3	SSE	71	NW	1954	64	6.7
A	67	44	39	62	9.5	SE	57	NW	1964	67	6.4
M	66	39	33	58	9.4	SE	57	NW	1953	72	5.7
J	60	31	26	50	9.4	SSE	63	W	1963	79	4.4
J	51	26	21	42	9.5	SSE	49	W	1936	84	3.5
A	55	29	23	45	9.6	SSE	58	SW	1946	82	3.7
S	61	35	28	54	9.1	SE	61	W	1952	83	3.6
O	69	43	41	66	8.5	SE	67	NW	1950	72	4.6
N	74	57	58	73	7.9	SSE	63	NW	1937	54	6.2
D	78	70	71	78	7.5	SSE	54	S	1955	43	7.2
YR	67	47	43	62	8.8	SSE	71	NW	MAR 1954	69	5.5

Month	Mean number of days: Sunrise to sunset Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, Ice pellets 1.0 inch or more	Thunderstorms	Heavy fog, visibility ¼ mile or less	Temperatures °F Max. (b) 90° and above	Max. 32° and below	Min. 32° and below	Min. 0° and below	Average station pressure mb. Elev. 4227 feet m.s.l.
(a)	55	55	55	55	55	55	55	24	24	24	24	11
J	6	6	19	10	4	*	4	0	10	27	2	873.7
F	5	7	16	9	3	1	2	0	3	22	*	873.1
M	7	8	16	10	3	1	*	0	1	18	0	868.7
A	7	9	14	10	1	2	*	0	0	8	0	869.5
M	9	11	11	8	*	5	*	1	0	1	0	868.9
J	14	10	6	5	0	5	0	9	0	0	0	870.0
J	17	10	4	4	0	7	0	25	0	0	0	871.4
A	16	10	5	6	0	8	0	19	0	0	0	871.4
S	17	8	5	5	*	4	0	4	0	*	0	872.3
O	14	8	9	6	*	2	*	0	*	6	0	873.8
N	9	7	14	7	2	*	1	0	1	18	0	873.5
D	6	7	18	9	4	*	*	0	8	27	1	874.5
YR	127	101	137	90	18	36	11	57	23	127	3	871.7

NOTE: NORMAL COOLING DEGREE DATA PUBLISHED IN THE 1982 ANNUAL WERE FOR THE 1951-1980 PERIOD.

NORMALS, MEANS, AND EXTREMES TABLE NOTE(S):

(a) Length of record, years, through the current year unless otherwise noted, based on January data.
(b) 70° and above at Alaskan stations.
* Less than one half.
T Trace.
BLANK entries denote missing or unreported data.

NORMALS - Based on record for the 1951-1980 period.
MEANS - Length of record in (a) is for complete data years.
EXTREMES - Length of record in (a) may be for other than complete or consecutive data years. Date is the most recent in cases of multiple occurrence.
WIND DIRECTION - Numerals indicate tens of degrees clockwise from true north. 00 indicates calm.
FASTEST MILE WIND - Speed is fastest observed 1-minute value when direction is in tens of degrees.

Means and extremes above are from existing and comparable exposures. Annual extremes have been exceeded at other sites in the locality as follows:
Precipitation
Maximum in 24 hours: 2.72 in May 1901.

XIII. **Table 3a.**

CLIMATOGRAPHY OF THE UNITED STATES NO. 84

DAILY NORMALS OF TEMPERATURE, HEATING AND COOLING DEGREE DAYS AND PRECIPITATION 1951–80

427598 SALT LAKE CITY WSFO LATITUDE: 40 47N LONGITUDE: 111 57W ELEVATION: 4222 FT.

	DECEMBER						JANUARY						FEBRUARY					
	TEMPERATURE			DEG	DAY		TEMPERATURE			DEG	DAY		TEMPERATURE			DEG	DAY	
DAILY	MAX	MIN	AVG	HDD	CDD	PRECIP	MAX	MIN	AVG	HDD	CDD	PRECIP	MAX	MIN	AVG	HDD	CDD	PRECIP
1	43	25	34	31	0	.04	36	19	28	37	0	.05	40	22	31	34	0	.04
2	43	24	34	31	0	.04	36	19	28	37	0	.05	40	22	31	34	0	.04
3	42	24	33	32	0	.04	36	19	28	37	0	.04	41	22	31	34	0	.04
4	42	24	33	32	0	.04	36	19	28	37	0	.04	41	22	32	33	0	.04
5	42	24	33	32	0	.04	36	19	28	37	0	.04	41	23	32	33	0	.04
6	41	23	32	33	0	.04	36	19	28	37	0	.04	42	23	32	33	0	.04
7	41	23	32	33	0	.04	36	19	28	37	0	.04	42	23	32	33	0	.04
8	41	23	32	33	0	.04	36	19	28	37	0	.04	42	23	33	32	0	.05
9	40	23	31	34	0	.04	36	19	28	37	0	.04	42	23	33	32	0	.05
10	40	23	31	34	0	.04	37	19	28	37	0	.04	43	24	33	32	0	.05
11	40	22	31	34	0	.04	37	19	28	37	0	.04	43	24	33	32	0	.05
12	39	22	31	34	0	.04	37	19	28	37	0	.04	43	24	34	31	0	.05
13	39	22	31	34	0	.05	37	19	28	37	0	.04	43	24	34	31	0	.05
14	39	22	30	35	0	.05	37	19	28	37	0	.04	44	24	34	31	0	.05
15	39	22	30	35	0	.05	37	19	28	37	0	.04	44	25	34	31	0	.05
16	38	21	30	35	0	.05	37	19	28	37	0	.04	44	25	35	30	0	.05
17	38	21	30	35	0	.05	37	20	28	37	0	.04	44	25	35	30	0	.05
18	38	21	30	35	0	.05	37	20	28	37	0	.04	45	25	35	30	0	.05
19	38	21	29	36	0	.05	37	20	28	37	0	.04	45	25	35	30	0	.05
20	38	21	29	36	0	.05	38	20	29	36	0	.04	45	25	35	30	0	.05
21	37	21	29	36	0	.05	38	20	29	36	0	.04	45	26	36	29	0	.05
22	37	20	29	36	0	.05	38	20	29	36	0	.04	46	26	36	29	0	.05
23	37	20	29	36	0	.05	38	20	29	36	0	.05	46	26	36	29	0	.05
24	37	20	29	36	0	.05	38	20	29	36	0	.05	46	26	36	29	0	.05
25	37	20	29	36	0	.05	39	20	29	36	0	.05	46	26	36	29	0	.05
26	37	20	28	37	0	.04	39	21	30	35	0	.05	47	26	37	28	0	.05
27	37	20	28	37	0	.04	39	21	30	35	0	.05	47	27	37	28	0	.05
28	37	20	28	37	0	.04	39	21	30	35	0	.05	47	27	37	28	0	.05
29	37	20	28	37	0	.04	39	21	30	35	0	.05						
30	36	19	28	37	0	.04	40	21	30	35	0	.05						
31	36	19	28	37	0	.04	40	22	31	34	0	.05						
MONTHLY	38.9	21.6	30.3	1076	0	1.37	37.4	19.7	28.6	1128	0	1.35	43.7	24.4	34.1	865	0	1.33
WINTER	39.9	21.9	30.9	3069	0	4.05						ANNUAL	64.0	39.3	51.7	5802	981	15.31

NOTES :
DEGREE DAYS BASE TEMPERATURE = 65 DEG F; TEMPERATURE UNITS = DEG F; PRECIPITATION UNITS = INCHES; * = LESS THAN 1 BUT GREATER THAN 0

THE DAILY VALUES PRESENTED IN THESE TABLES ARE NOT SIMPLE MEANS OF OBSERVED DAILY VALUES. THEY ARE INTERPOLATED FROM THE MUCH LESS VARIABLE MONTHLY NORMALS BY USE OF THE NATURAL SPLINE FUNCTION. IN LEAP YEARS USE THE FEBRUARY 28TH VALUES FOR THE 29TH AND ADJUST THE DEGREE DAY AND PRECIPITATION MONTHLY TOTALS ACCORDINGLY. DAILY PRECIPITATION NORMALS WERE ALSO COMPUTED USING THE NATURAL SPLINE FUNCTION AND DO NOT EXHIBIT THE TYPICAL DAILY RANDOM PATTERNS. HOWEVER, THEY MAY BE USED TO COMPUTE NORMAL PRECIPITATION OVER TIME INTERVALS.

Table 3b.

CLIMATOGRAPHY OF THE UNITED STATES NO. 84

DAILY NORMALS OF TEMPERATURE, HEATING AND COOLING DEGREE DAYS AND PRECIPITATION 1951-80

427598 SALT LAKE CITY WSFO — LATITUDE: 40 47N — LONGITUDE: 111 57W — ELEVATION: 4222 FT.

	MARCH						APRIL						MAY					
DAILY	TEMPERATURE MAX	MIN	AVG	DEG HDD	DAY CDD	PRECIP	TEMPERATURE MAX	MIN	AVG	DEG HDD	DAY CDD	PRECIP	TEMPERATURE MAX	MIN	AVG	DEG HDD	DAY CDD	PRECIP
1	47	27	37	28	0	.05	56	33	45	20	0	.07	67	41	54	11	0	.06
2	48	27	37	28	0	.05	57	34	45	20	0	.07	67	42	54	11	0	.06
3	48	27	38	27	0	.05	57	34	45	20	0	.07	68	42	55	10	*	.06
4	48	28	38	27	0	.05	57	34	46	19	0	.07	68	42	55	10	*	.06
5	48	28	38	27	0	.05	57	34	46	19	0	.07	68	42	55	10	*	.06
6	49	28	38	27	0	.05	58	35	46	19	0	.07	69	43	56	10	*	.06
7	49	28	39	26	0	.05	58	35	47	18	0	.07	69	43	56	9	*	.06
8	49	28	39	26	0	.05	58	35	47	18	0	.07	69	43	56	9	*	.05
9	49	28	39	26	0	.05	59	35	47	18	0	.08	70	43	57	8	*	.05
10	50	29	39	26	0	.05	59	36	47	18	0	.08	70	44	57	8	*	.05
11	50	29	39	26	0	.05	59	36	48	17	0	.08	71	44	57	8	*	.05
12	50	29	40	25	0	.05	60	36	48	17	0	.08	71	44	58	8	*	.05
13	51	29	40	25	0	.05	60	37	48	17	0	.08	71	44	58	8	*	.05
14	51	29	40	25	0	.05	60	37	49	16	0	.08	72	45	58	8	*	.05
15	51	30	40	25	0	.05	61	37	49	16	0	.08	72	45	59	7	1	.05
16	51	30	41	24	0	.05	61	37	49	16	0	.08	72	45	59	7	1	.05
17	52	30	41	24	0	.05	62	38	50	15	0	.08	73	46	59	7	1	.04
18	52	30	41	24	0	.06	62	38	50	15	0	.08	73	46	60	6	1	.04
19	52	30	41	24	0	.06	62	38	50	15	0	.08	74	46	60	6	1	.04
20	53	31	42	23	0	.06	63	38	51	14	0	.08	74	46	60	6	1	.04
21	53	31	42	23	0	.06	63	39	51	14	0	.07	74	47	60	6	1	.04
22	53	31	42	23	0	.06	63	39	51	14	0	.07	75	47	61	5	1	.04
23	53	31	42	23	0	.06	64	39	52	13	0	.07	75	47	61	5	1	.04
24	54	32	43	22	0	.06	64	39	52	13	0	.07	75	47	61	5	1	.04
25	54	32	43	22	0	.06	65	40	52	13	0	.07	76	47	62	5	2	.04
26	54	32	43	22	0	.06	65	40	52	13	0	.07	76	48	62	5	2	.04
27	55	32	43	22	0	.06	65	40	53	12	0	.07	76	48	62	5	2	.04
28	55	32	44	21	0	.06	66	41	53	12	0	.07	77	48	62	5	2	.04
29	55	33	44	21	0	.07	66	41	53	12	0	.07	77	48	63	4	2	.04
30	56	33	44	21	0	.07	66	41	54	11	0	.06	77	49	63	4	2	.04
31	56	33	45	20	0	.07							78	49	63	4	2	.04
MONTHLY	51.5	29.9	40.7	753	0	1.72	61.1	37.2	49.2	474	0	2.21	72.4	45.2	58.8	220	28	1.47
SPRING	61.7	37.5	49.6	1447	28	5.40						ANNUAL	64.0	39.3	51.7	5802	981	15.31

NOTES :
DEGREE DAYS BASE TEMPERATURE = 65 DEG F; TEMPERATURE UNITS = DEG F; PRECIPITATION UNITS = INCHES; * = LESS THAN 1 BUT GREATER THAN 0

THE DAILY VALUES PRESENTED IN THESE TABLES ARE NOT SIMPLE MEANS OF OBSERVED DAILY VALUES. THEY ARE INTERPOLATED FROM THE MUCH LESS VARIABLE MONTHLY NORMALS BY USE OF THE NATURAL SPLINE FUNCTION. IN LEAP YEARS USE THE FEBRUARY 28TH VALUES FOR THE 29TH AND ADJUST THE DEGREE DAY AND PRECIPITATION MONTHLY TOTALS ACCORDINGLY. DAILY PRECIPITATION NORMALS WERE ALSO COMPUTED USING THE NATURAL SPLINE FUNCTION AND DO NOT EXHIBIT THE TYPICAL DAILY RANDOM PATTERNS. HOWEVER, THEY MAY BE USED TO COMPUTE NORMAL PRECIPITATION OVER TIME INTERVALS.

Table 3c.

CLIMATOGRAPHY OF THE UNITED STATES NO. 84

DAILY NORMALS OF TEMPERATURE, HEATING AND COOLING DEGREE DAYS AND PRECIPITATION 1951–80

427598 SALT LAKE CITY WSFO LATITUDE: 40 47N LONGITUDE: 111 57W ELEVATION: 4222 FT.

	JUNE						JULY						AUGUST					
	TEMPERATURE			DEG	DAY		TEMPERATURE			DEG	DAY		TEMPERATURE			DEG	DAY	
DAILY	MAX	MIN	AVG	HDD	CDD	PRECIP	MAX	MIN	AVG	HDD	CDD	PRECIP	MAX	MIN	AVG	HDD	CDD	PRECIP
1	78	49	64	3	2	.04	90	59	74	0	10	.03	94	63	78	0	13	.02
2	78	49	64	3	2	.04	90	59	74	0	10	.03	93	63	78	0	13	.03
3	79	50	64	3	2	.04	91	59	75	0	10	.03	93	62	78	0	13	.03
4	79	50	64	3	2	.04	91	60	75	0	10	.03	93	62	78	0	13	.03
5	79	50	65	3	3	.04	91	60	76	0	11	.03	93	62	77	0	12	.03
6	80	50	65	3	3	.04	92	60	76	0	11	.02	93	62	77	0	12	.03
7	80	51	65	3	3	.04	92	60	76	0	11	.02	92	62	77	0	12	.03
8	80	51	66	2	3	.03	92	61	76	0	11	.02	92	62	77	0	12	.03
9	81	51	66	2	3	.03	93	61	77	0	12	.02	92	61	77	0	12	.03
10	81	51	66	2	3	.03	93	61	77	0	12	.02	92	61	77	0	12	.03
11	81	52	67	2	4	.03	93	61	77	0	12	.02	91	61	76	0	11	.03
12	82	52	67	2	4	.03	93	62	77	0	12	.02	91	61	76	0	11	.03
13	82	52	67	2	4	.03	94	62	78	0	13	.02	91	61	76	0	11	.03
14	83	53	68	2	5	.03	94	62	78	0	13	.02	91	60	76	0	11	.03
15	83	53	68	2	5	.03	94	62	78	0	13	.02	90	60	75	0	10	.03
16	83	53	68	2	5	.03	94	62	78	0	13	.02	90	60	75	0	10	.03
17	84	54	69	1	5	.03	94	63	78	0	13	.02	90	60	75	0	10	.03
18	84	54	69	1	5	.03	94	63	78	0	13	.02	90	60	75	0	10	.03
19	85	54	69	1	5	.03	94	63	79	0	13	.02	89	59	74	0	9	.03
20	85	55	70	1	6	.03	94	63	79	0	14	.02	89	59	74	0	9	.03
21	85	55	70	1	6	.03	94	63	79	0	14	.02	89	59	74	0	9	.03
22	86	55	70	1	6	.03	95	63	79	0	14	.02	89	58	74	0	9	.03
23	86	56	71	1	7	.03	95	63	79	0	14	.02	88	58	73	0	8	.03
24	87	56	71	1	7	.03	94	63	79	0	14	.02	88	58	73	0	8	.03
25	87	56	72	1	8	.03	94	63	79	0	14	.02	88	58	73	0	8	.03
26	87	57	72	1	8	.03	94	63	79	0	14	.02	87	57	72	0	8	.03
27	88	57	72	1	8	.03	94	63	79	0	14	.03	87	57	72	0	8	.03
28	88	57	73	1	9	.03	94	63	79	0	14	.03	87	57	72	0	7	.03
29	89	58	73	1	9	.03	94	63	78	0	13	.03	86	56	71	0	7	.03
30	89	58	74	1	10	.03	94	63	78	0	13	.03	86	56	71	0	7	.03
31							94	63	78	0	13	.03	86	56	71	0	6	.03
MONTHLY	83.3	53.3	68.3	53	152	.97	93.2	61.8	77.5	0	388	.72	90.0	59.7	74.9	0	311	.92
SUMMER	88.9	58.4	73.7	53	851	2.61												
												ANNUAL	64.0	39.3	51.7	5802	981	15.31

NOTES :
DEGREE DAYS BASE TEMPERATURE = 65 DEG F; TEMPERATURE UNITS = DEG F; PRECIPITATION UNITS = INCHES; * = LESS THAN 1 BUT GREATER THAN 0

THE DAILY VALUES PRESENTED IN THESE TABLES ARE NOT SIMPLE MEANS OF OBSERVED DAILY VALUES. THEY ARE INTERPOLATED FROM THE MUCH LESS VARIABLE MONTHLY NORMALS BY USE OF THE NATURAL SPLINE FUNCTION. IN LEAP YEARS USE THE FEBRUARY 28TH VALUES FOR THE 29TH AND ADJUST THE DEGREE DAY AND PRECIPITATION MONTHLY TOTALS ACCORDINGLY. DAILY PRECIPITATION NORMALS WERE ALSO COMPUTED USING THE NATURAL SPLINE FUNCTION AND DO NOT EXHIBIT THE TYPICAL DAILY RANDOM PATTERNS. HOWEVER, THEY MAY BE USED TO COMPUTE NORMAL PRECIPITATION OVER TIME INTERVALS.

Table 3d.

CLIMATOGRAPHY OF THE UNITED STATES NO. 84

DAILY NORMALS OF TEMPERATURE, HEATING AND COOLING DEGREE DAYS AND PRECIPITATION 1951–80

427598 SALT LAKE CITY WSFO LATITUDE: 40 47N LONGITUDE: 111 57W ELEVATION: 4222 FT.

	SEPTEMBER						OCTOBER						NOVEMBER					
	TEMPERATURE			DEG	DAY		TEMPERATURE			DEG	DAY		TEMPERATURE			DEG	DAY	
DAILY	MAX	MIN	AVG	HDD	CDD	PRECIP	MAX	MIN	AVG	HDD	CDD	PRECIP	MAX	MIN	AVG	HDD	CDD	PRECIP
1	85	55	70	1	6	.03	74	45	59	7	1	.03	58	34	46	19	0	.04
2	85	55	70	1	6	.03	74	44	59	7	1	.03	57	33	45	20	0	.04
3	85	54	70	1	6	.03	73	44	58	8	1	.03	57	33	45	20	0	.04
4	84	54	69	1	5	.03	73	43	58	8	1	.03	56	33	44	21	0	.04
5	84	54	69	1	5	.03	72	43	58	8	1	.03	56	32	44	21	0	.04
6	84	53	69	1	5	.03	72	43	57	8	0	.03	55	32	44	21	0	.04
7	83	53	68	2	5	.03	71	42	57	8	0	.03	54	32	43	22	0	.04
8	83	53	68	2	5	.03	71	42	56	9	0	.03	54	31	43	22	0	.04
9	82	52	67	2	4	.03	70	42	56	9	0	.03	53	31	42	23	0	.04
10	82	52	67	2	4	.03	70	41	56	9	0	.03	53	31	42	23	0	.04
11	82	52	67	2	4	.02	69	41	55	10	0	.04	52	31	41	24	0	.04
12	81	51	66	2	3	.03	69	41	55	10	0	.04	52	30	41	24	0	.04
13	81	51	66	2	3	.03	68	40	54	11	0	.04	51	30	41	24	0	.04
14	81	51	66	2	3	.03	68	40	54	11	0	.04	51	30	40	25	0	.04
15	80	50	65	3	3	.03	68	40	54	11	0	.04	50	29	40	25	0	.04
16	80	50	65	3	3	.03	67	39	53	12	0	.04	50	29	39	26	0	.04
17	80	49	64	3	3	.03	66	39	53	12	0	.04	49	29	39	26	0	.04
18	79	49	64	4	3	.03	66	39	52	13	0	.04	49	28	39	26	0	.04
19	79	49	64	4	3	.03	65	38	52	13	0	.04	48	28	38	27	0	.04
20	78	48	63	4	2	.03	65	38	51	14	0	.04	48	28	38	27	0	.04
21	78	48	63	4	2	.03	64	38	51	14	0	.04	47	27	37	28	0	.04
22	78	48	63	4	2	.03	64	37	51	14	0	.04	47	27	37	28	0	.04
23	77	47	62	5	2	.03	63	37	50	15	0	.04	46	27	37	28	0	.04
24	77	47	62	5	2	.03	63	37	50	15	0	.04	46	27	36	29	0	.04
25	76	47	61	6	2	.03	62	36	49	16	0	.04	46	26	36	29	0	.04
26	76	46	61	6	2	.03	62	36	49	16	0	.04	45	26	36	29	0	.04
27	76	46	61	6	1	.03	61	35	48	17	0	.04	45	26	35	30	0	.04
28	75	46	60	6	1	.03	60	35	48	17	0	.04	44	26	35	30	0	.04
29	75	45	60	6	1	.03	60	35	47	18	0	.04	44	25	34	31	0	.05
30	74	45	60	6	1	.03	59	34	47	18	0	.04	43	25	34	31	0	.05
31							59	34	46	19	0	.04						
MONTHLY	80.0	50.0	65.0	97	97	.89	66.7	39.3	53.0	377	5	1.14	50.2	29.2	39.7	759	0	1.22
AUTUMN	65.7	39.5	52.6	1233	102	3.25						ANNUAL	64.0	39.3	51.7	5802	981	15.31

NOTES :
DEGREE DAYS BASE TEMPERATURE = 65 DEG F; TEMPERATURE UNITS = DEG F; PRECIPITATION UNITS = INCHES; * = LESS THAN 1 BUT GREATER THAN 0

THE DAILY VALUES PRESENTED IN THESE TABLES ARE NOT SIMPLE MEANS OF OBSERVED DAILY VALUES. THEY ARE INTERPOLATED FROM THE MUCH LESS VARIABLE MONTHLY NORMALS BY USE OF THE NATURAL SPLINE FUNCTION. IN LEAP YEARS USE THE FEBRUARY 28TH VALUES FOR THE 29TH AND ADJUST THE DEGREE DAY AND PRECIPITATION MONTHLY TOTALS ACCORDINGLY. DAILY PRECIPITATION NORMALS WERE ALSO COMPUTED USING THE NATURAL SPLINE FUNCTION AND DO NOT EXHIBIT THE TYPICAL DAILY RANDOM PATTERNS. HOWEVER, THEY MAY BE USED TO COMPUTE NORMAL PRECIPITATION OVER TIME INTERVALS.

XIV. Temperature Data:

The following graphs, Figures 4a - 4d are smoothed average hourly temperature curves made by using the average hourly temperature that was compiled for a 15-year period and then making slight adjustments necessary to incorporate the average synoptic (MST temperature observations (5 a.m., 11 a.m., 5 p.m., 11 p.m.) for the entire period from May 1928 - December 1988.

NOTE: The normal maximum and minimum temperatures (1951-1980) are also listed on each graph. This is because maximum and minimum temperature readings usually occur between the times of the hourly observations and do not fall on the average hourly temperature curve. This is especially true of the minimum temperature because of not only the variability in time of occurrence but also because of the usually short period of time in which the minimum temperature occurs. These factors should be remembered when using the graphs.

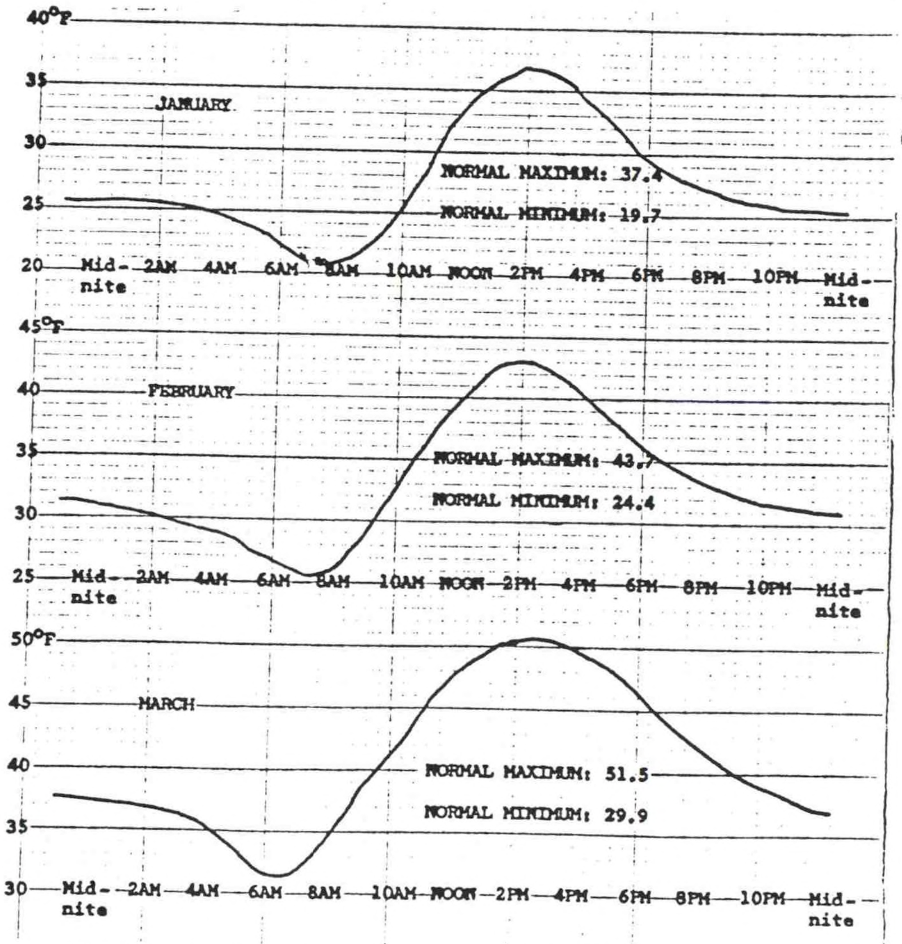


Figure 4a.

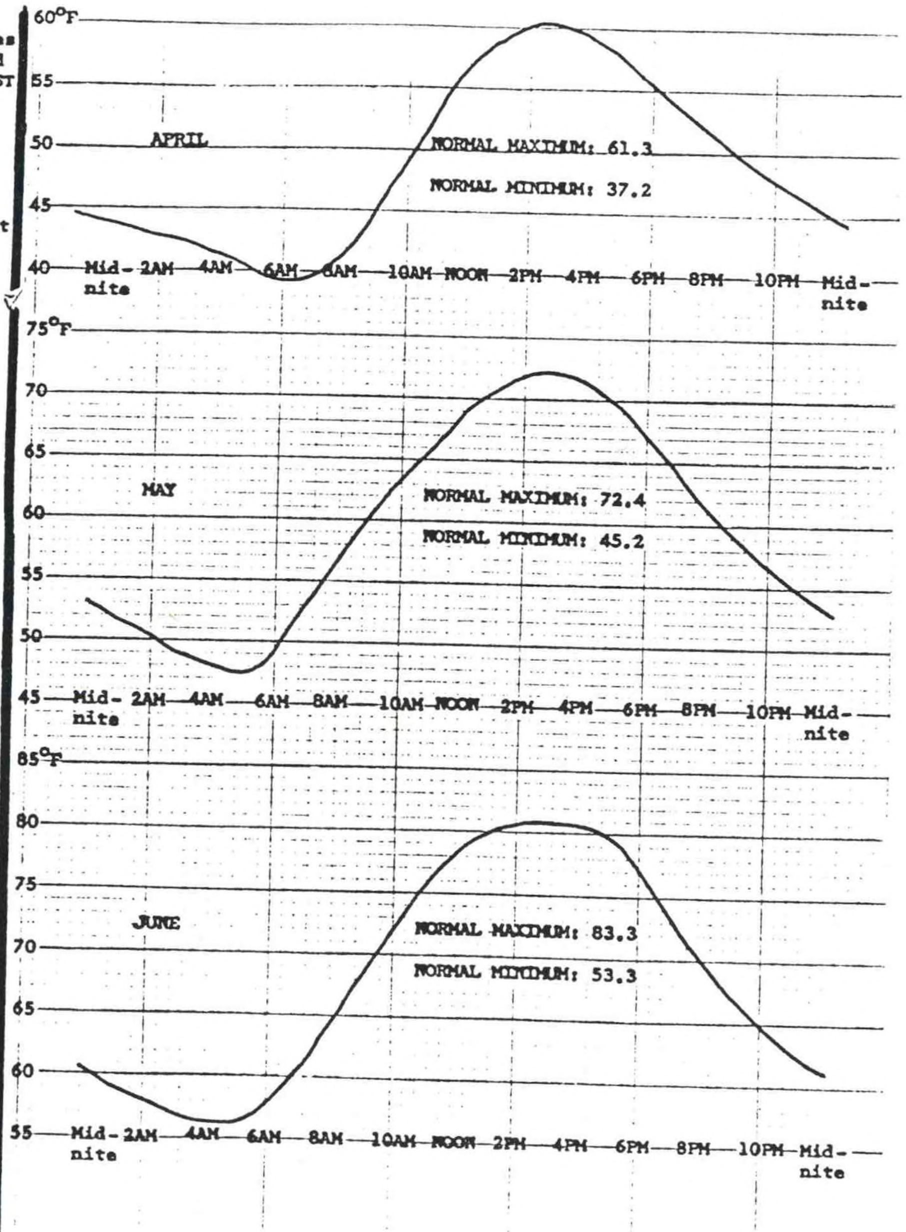


Figure 4b.

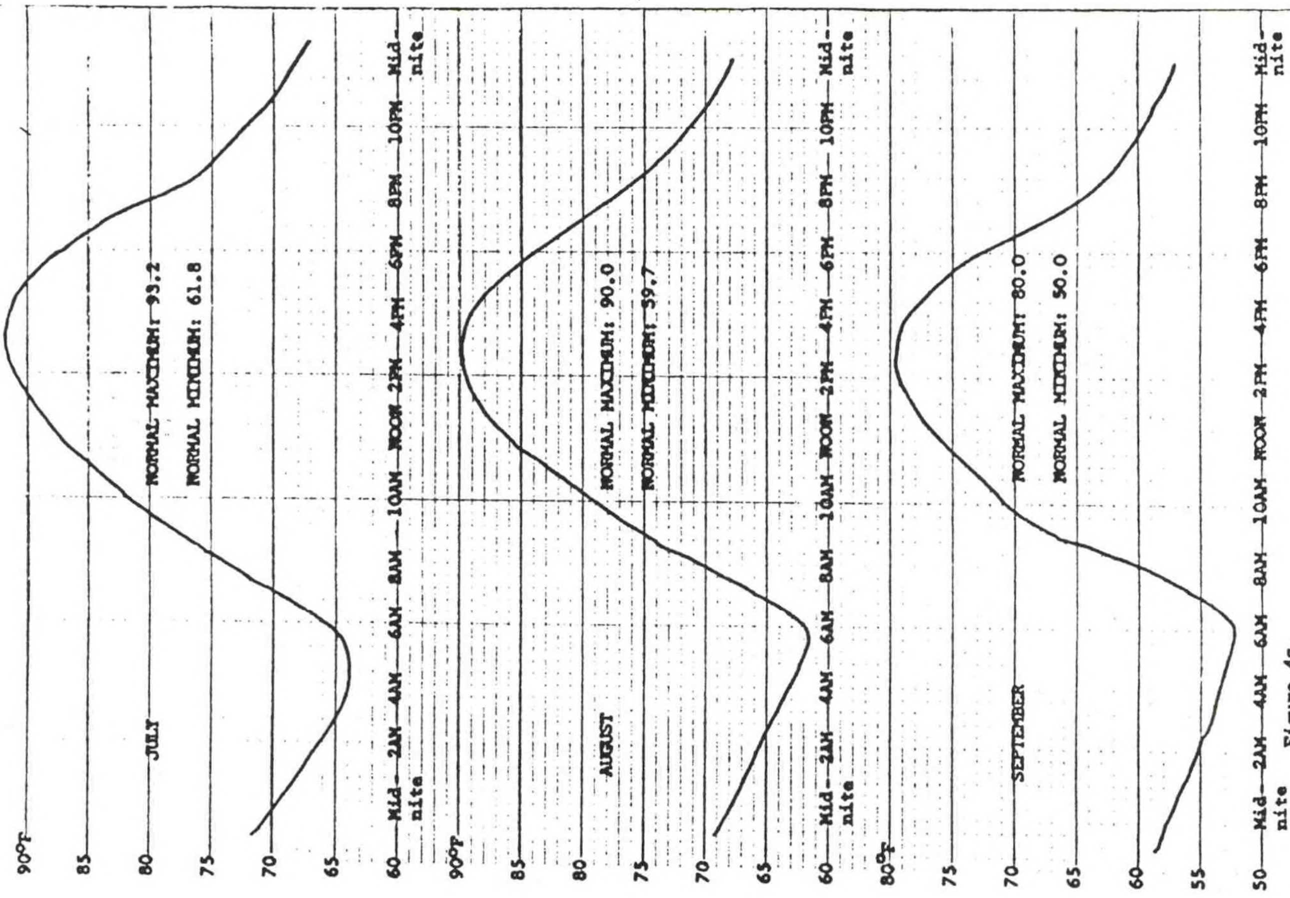


Figure 4c.

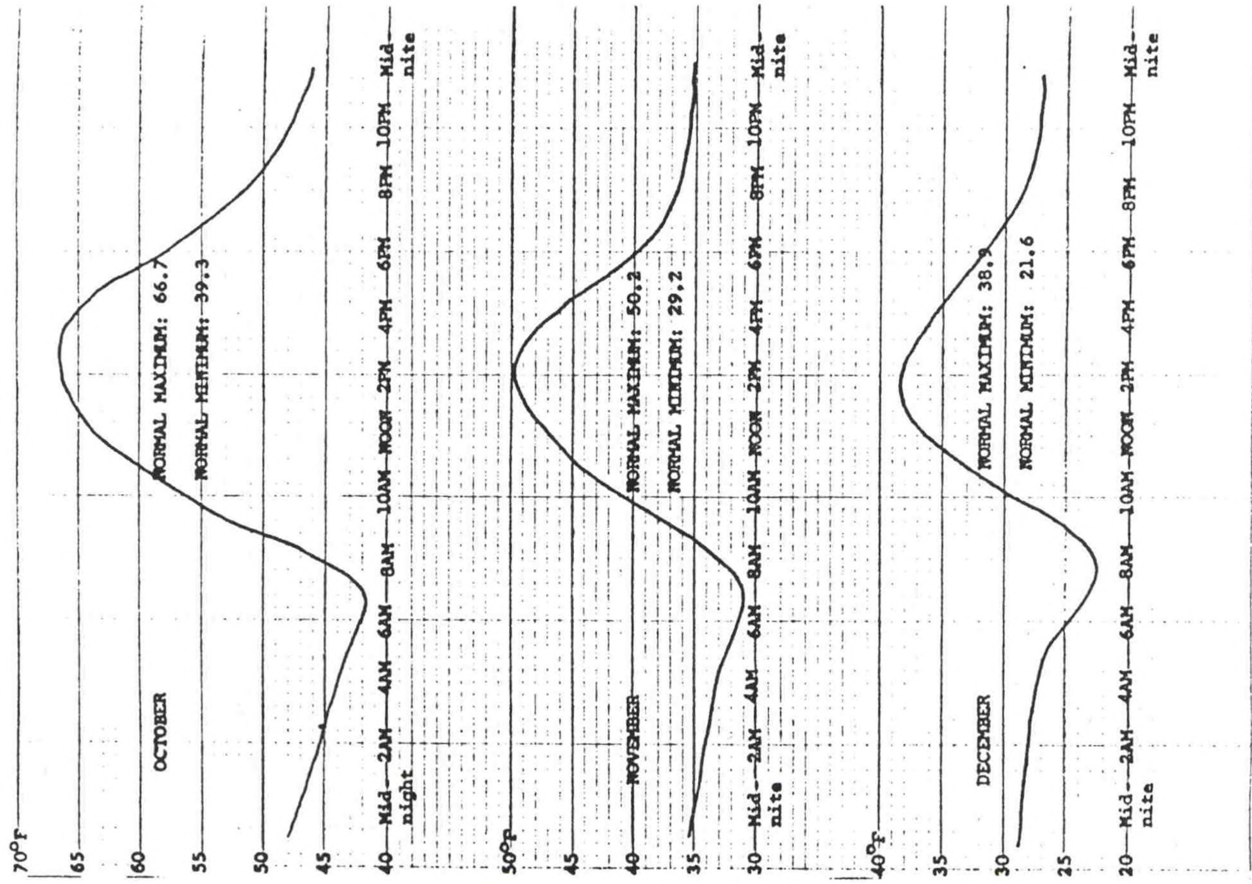


Figure 4d.

TABLE 4a

DAILY MAXIMUM AND MINIMUM TEMPERATURE EXTREMES, 1928-1992

JANUARY

DAY	HIGH MAX	YEAR	LOW MAX	YEAR	HIGH MIN	YEAR	LOW MIN	YEAR
1	58.1	1943	14.2	1979	42.0	1934	- 4.0	1931
2	49.9	1943	15.5	1942	36.7	1940	- 5.5	1974
3	52.1	1934	13.8	1949	33.7	1946	- 2.7	1932
4	52.9	1956	13.2	1960	37.7	1987	-13.0	1973
5	56.0	1980	14.5	1971	40.1	1978	- 6.2	1973
6	54.6	1948	10.4	1971	41.8	1965	-13.2	1942
7	58.0	1956	16.0	1937	36.2	1983	-10.8	1973
8	56.6	1945	9.1	1937	39.3	1953	-10.6	1937
9	58.6	1953	7.0	1937	39.6	1980	-11.2	1937
10	56.8	1953	18.1	1937	37.0	1960	- 7.8	1937
11	53.8	1953	10.2	1963	36.0	1971	- 8.5	1963
12	59.7	1953	3.6	1963	40.9	1969	-18.0	1963
13	57.2	1980	7.8	1963	47.0	1980	-15.0	1963
14	59.0	1945+	16.9	1964	37.9	1970	- 9.6	1932
15	56.2	1943	19.6	1947	39.8	1954	- 5.6	1964
16	56.0	1974	19.2	1984	37.8	1954	- 5.4	1947
17	54.4	1982	17.2	1949	39.6	1950	- 9.0	1930
18	53.3	1959	15.3	1930	38.9	1950	- 6.1	1984
19	52.6	1971	8.6	1963	38.1	1969	-14.8	1963
20	58.3	1953	6.6	1937	46.0	1969	- 8.0	1937
21	56.8	1943	5.9	1937	45.0	1943	-19.9	1937
22	56.3	1970	7.8	1937	43.0	1970	-14.0	1930
23	60.0	1970	9.2	1937	41.4	1970	-14.0	1962
24	59.1	1970	14.0	1929	36.8	1952	- 9.0	1929
25	58.7	1953	7.9	1949	35.2	1947	-21.7	1949
26	61.5	1982	18.1	1949	35.0	1971	-15.3	1949
27	54.1	1971	15.1	1949	39.2	1983	- 6.5	1949
28	56.6	1938	17.8	1949	39.2	1981	- 7.8	1949
29	54.3	1953	17.8	1949	36.1	1958	-11.6	1949
30	60.7	1971	18.2	1942	40.2	1965	- 5.8	1979
31	61.1	1971	16.7	1951	46.4	1963	- 8.1	1979
mnth	61.5	1982/26	3.6	1963/12	47.0	1980/14	-21.7	1949/25

+...Also in earlier years

TABLE 4b

DAILY MAXIMUM AND MINIMUM TEMPERATURE EXTREMES, 1928-1992

FEBRUARY

DAY	HIGH MAX	YEAR		LOW MAX	YEAR		HIGH MIN	YEAR		LOW MIN	YEAR
1	59.1	1963		16.8	1985		38.4	1963		- 9.0	1985
2	55.5	1953		19.7	1949		37.8	1978		- 4.1	1949
3	63.6	1953		22.2	1979		38.1	1953		-10.1	1949
4	59.4	1934		20.2	1982		34.8	1958		- 1.1	1985
5	61.5	1963		17.6	1989		37.9	1963		- 7.5	1989
6	63.0	1934		16.9	1989		38.0	1934		-14.1	1989
7	59.1	1943		6.0	1933		40.7	1959		-12.2	1933
8	60.4	1945		20.3	1989		39.1	1957		- 7.4	1936
9	61.0	1951		8.0	1933		39.8	1938		-30.0	1933
10	67.9	1951		9.5	1933		47.7	1962		-26.4	1933
11	65.2	1961		19.2	1933		49.9	1961		- 0.6	1929
12	60.5	1970		23.7	1949		38.0	1975		1.1	1949
13	60.5	1971		18.2	1949		40.0	1954		- 9.0	1949
14	58.1	1971		18.8	1929		38.1	1982		-12.8	1933
15	57.6	1947		26.0	1956		44.9	1986		- 3.5	1933
16	62.3	1947		22.8	1956		43.0	1986		4.1	1933
17	62.6	1930		25.7	1956		44.3	1986		- 4.8	1933
18	66.2	1958		21.7	1942		51.3	1986		- 0.1	1942
19	66.3	1958		23.4	1955		45.0	1958		4.4	1955
20	64.9	1958		24.7	1955		42.7	1957		0.4	1955
21	66.3	1982		24.8	1955		37.7	1941		6.2	1984
22	64.8	1958		29.1	1955		42.9	1982		5.9	1975
23	60.4	1986		29.1	1960		44.2	1986		5.6	1960
24	68.1	1981		26.1	1960		45.9	1986		4.9	1960
25	68.2	1950		26.8	1964		45.0	1981		2.0	1933
26	67.0	1950		22.6	1962		40.2	1976		3.0	1962
27	67.2	1980		13.5	1962		44.1	1940		- 2.2	1962
28	68.5	1972		25.0	1960		45.0	1940		1.0	1962
29	65.9	1992		24.0	1960		40.8	1980		- 4.2	1960
mnth	68.5	1972/28		6.0	1933/7		51.3	1986/18		-30.0	1933/9

+...Also in earlier years

TABLE 4c

DAILY MAXIMUM AND MINIMUM TEMPERATURE EXTREMES, 1928-1992

MARCH

DAY	HIGH MAX	YEAR		LOW MAX	YEAR		HIGH MIN	YEAR		LOW MIN	YEAR
1	66.7	1967		29.0	1971		47.4	1983		12.9	1960
2	63.9	1992		30.0	1953		48.0	1983		2.9	1971
3	63.0	1987		26.5	1966		40.2	1980		5.3	1952
4	68.7	1987		26.2	1966		42.0	1934		1.8	1966
5	67.5	1972		30.9	1955		46.0	1987		5.2	1966
6	68.5	1972		30.5	1964		43.5	1987		10.0	1964
7	65.8	1986		31.6	1964		43.0	1975		4.9	1964
8	67.7	1972		32.6	1964		46.2	1954		6.9	1964
9	76.4	1989		33.4	1964		43.0	1954		20.0	1930
10	74.5	1989		29.2	1962		52.9	1989		13.2	1964
11	70.3	1989		29.0	1962		46.0	1983		13.6	1948
12	68.2	1934		29.8	1962		45.2	1967		12.4	1990
13	70.0	1934		28.6	1962		46.0	1983		9.1	1962
14	70.0	1935		31.3	1962		42.4	1992+		10.5	1964
15	71.5	1934		32.0	1943		46.1	1992		14.9	1962
16	69.0	1967		36.4	1963		43.8	1992		10.1	1963
17	67.6	1972+		33.8	1951		48.2	1974		18.2	1942
18	72.0	1972		30.7	1965		41.9	1976		11.6	1965
19	70.7	1949		34.0	1943		48.0	1975		10.0	1965
20	70.7	1988		30.6	1955		46.0	1934		17.0	1965
21	72.6	1972		32.6	1952		46.2	1988		14.1	1948
22	74.5	1972		31.7	1952		47.1	1978		16.9	1966
23	73.4	1961		31.1	1952		47.1	1967		18.9	1952
24	77.9	1956		37.8	1929		48.1	1985		18.0	1965
25	75.1	1956		36.2	1942		49.3	1956		14.4	1965
26	77.7	1960		31.6	1975		46.1	1971		18.8	1955
27	73.0	1953		27.2	1975		51.1	1960		13.7	1931
28	76.7	1943		28.0	1975		50.0	1934		18.2	1956
29	75.0	1968		35.2	1977		56.0	1943		17.0	1975
30	73.0	1978+		38.8	1967		50.0	1978		13.0	1977
31	74.6	1966		40.9	1938		51.2	1956		19.0	1970
mnth	77.9	1956/24		26.2	1966/4		56.0	1943/29		1.8	1966/4

+...Also in earlier years

TABLE 4d

DAILY MAXIMUM AND MINIMUM TEMPERATURE EXTREMES, 1928-1992

APRIL

DAY	HIGH MAX	YEAR		LOW MAX	YEAR		HIGH MIN	YEAR		LOW MIN	YEAR
1	73.5	1932		34.9	1936		49.8	1968		19.4	1936
2	77.1	1943		36.8	1945		45.8	1961		14.2	1936
3	76.0	1961		35.4	1955		48.4	1985		18.4	1945
4	75.7	1959		38.9	1955		49.1	1992		20.2	1955
5	82.2	1959		38.0	1936		52.0	1954		15.3	1955
6	81.2	1930		35.4	1929		53.0	1991		24.0	1956
7	83.7	1930		37.3	1929		50.4	1930		21.0	1929
8	80.8	1977		41.0	1933		58.4	1930		25.0	1973
9	82.0	1960		37.0	1933+		52.3	1965		22.0	1933
10	75.6	1971		36.5	1974		51.4	1942		19.0	1933
11	80.0	1934		37.9	1991		52.4	1985		21.2	1929
12	81.3	1936		38.9	1945		61.8	1992		26.0	1953
13	80.3	1988		43.8	1968		52.0	1934		24.2	1945
14	81.0	1962		44.3	1945		54.0	1935		25.0	1933
15	84.7	1985		46.9	1952		55.0	1979		24.8	1945
16	84.2	1936		42.5	1976		61.2	1985		28.0	1970+
17	85.1	1987		39.9	1941		59.0	1985		24.0	1960
18	84.3	1962		40.0	1972		59.1	1946		27.0	1941
19	85.4	1962		41.0	1933		56.8	1962		24.1	1982
20	85.1	1989		39.8	1968		53.4	1980		24.3	1982
21	83.0	1934		36.2	1963		64.1	1989		22.4	1982
22	83.0	1934		44.2	1963		55.4	1980		25.9	1963
23	85.0	1934		42.8	1960		56.0	1934		26.8	1968
24	84.5	1977		43.6	1958		58.0	1930		27.4	1950
25	84.4	1946		43.7	1984		58.0	1959		26.1	1950
26	83.6	1992		40.8	1986		55.3	1981		27.0	1975
27	84.5	1987		35.9	1970		57.3	1992		30.0	1966+
28	84.6	1987		41.9	1937		56.0	1987		28.4	1966
29	86.0	1992		43.6	1970		59.2	1987		29.2	1990
30	83.9	1959		39.6	1967		56.0	1934		28.0	1962
mnth	86.0	1992/29		34.9	1936/1		64.1	1989/21		14.2	1936/2

+...Also in earlier years

TABLE 4e

DAILY MAXIMUM AND MINIMUM TEMPERATURE EXTREMES, 1928-1992

MAY

DAY	HIGH MAX	YEAR		LOW MAX	YEAR		HIGH MIN	YEAR		LOW MIN	YEAR
1	86.9	1981		45.2	1954		56.2	1943		26.9	1946
2	91.3	1947		38.7	1964		60.0	1985		28.1	1967
3	91.1	1947		43.5	1950		64.0	1985		27.6	1964
4	87.7	1947		48.8	1950		58.7	1962		31.0	1964
5	87.9	1947		44.5	1978		59.0	1979		28.0	1961
6	90.7	1947		45.5	1965		59.0	1934		25.4	1965
7	89.0	1934		45.4	1975		65.0	1934		27.2	1965
8	87.2	1962		45.6	1930		59.1	1966		30.2	1931
9	86.5	1954		46.0	1933		62.4	1962		28.2	1930
10	91.6	1961		47.4	1983		58.9	1954		31.0	1948
11	91.2	1960		44.2	1983		56.0	1934		32.0	1933
12	91.9	1960		45.2	1942		62.6	1960		32.4	1967
13	91.7	1959		50.1	1942		59.4	1984		30.0	1967
14	89.1	1936		52.6	1968		66.0	1984		33.1	1967
15	88.0	1934		50.0	1955		62.1	1987		32.4	1955
16	89.7	1948		47.6	1977		64.4	1987		30.0	1955
17	89.2	1948		48.0	1977		63.8	1934		32.7	1943
18	92.3	1932		44.6	1977		63.0	1934		33.0	1971+
19	92.9	1958		53.2	1945		59.4	1970		31.0	1960
20	92.4	1958		43.4	1975		62.9	1954		33.3	1959
21	86.2	1958		50.8	1962		62.0	1958		34.5	1959
22	89.0	1934		53.8	1986		58.8	1990		33.3	1960
23	91.0	1934		54.8	1944		68.7	1934		30.2	1960
24	90.0	1934		55.5	1939		64.0	1934		34.8	1930
25	91.5	1961		54.8	1980		60.6	1964		31.6	1975
26	92.0	1958		47.9	1929		65.7	1988		34.0	1975+
27	92.7	1951		56.7	1954		67.0	1985		32.8	1929
28	92.1	1958		55.0	1935		63.4	1985		32.4	1954
29	90.9	1939		55.2	1964		62.4	1943		37.1	1946
30	92.6	1984		52.0	1937		62.3	1984		34.0	1979
31	92.7	1956		54.1	1955		61.0	1933		35.9	1978
mnth	92.9	1958/19		38.7	1964/2		68.7	1934/23		25.4	1965/6

+...Also in earlier years

TABLE 4f

DAILY MAXIMUM AND MINIMUM TEMPERATURE EXTREMES, 1928-1991

JUNE

DAY	HIGH MAX	YEAR		LOW MAX	YEAR		HIGH MIN	YEAR		LOW MIN	YEAR
1	91.8	1977		50.8	1955		59.9	1940		38.4	1969
2	89.2	1968		51.9	1943		61.7	1986		34.8	1954
3	93.2	1988		55.6	1955		63.3	1968		34.9	1929
4	96.3	1988		52.3	1943		66.2	1988		39.4	1962
5	93.3	1946		60.0	1945		67.7	1987		35.3	1937
6	94.7	1959		51.8	1932		67.0	1950		36.9	1954
7	100.2	1985		55.0	1932		64.2	1985		34.8	1962+
8	96.4	1961		55.9	1941		64.3	1985		38.5	1979
9	101.0	1973		56.8	1941		65.0	1956		36.0	1950
10	95.0	1961+		58.8	1945		65.4	1946		40.2	1947
11	96.1	1961		48.7	1947		64.4	1955		40.0	1929
12	97.5	1979		62.8	1928		67.0	1953		40.9	1970
13	98.1	1979		62.0	1957		70.0	1959		39.9	1981
14	100.5	1974		60.1	1945		68.8	1959		39.3	1981
15	101.5	1974		61.3	1957		70.8	1974		38.8	1945
16	99.7	1940		62.3	1957		71.9	1974		39.8	1939
17	103.3	1940		50.0	1939		72.0	1933		37.4	1939
18	101.8	1940		53.5	1975		70.3	1986		36.8	1928
19	101.0	1940		61.5	1975		69.5	1989		40.3	1938
20	101.1	1936		66.2	1975		72.7	1940		41.0	1929
21	103.5	1961		58.0	1948		67.9	1988		37.5	1960
22	101.0	1961		59.8	1948		73.6	1937		42.0	1960
23	100.2	1990		71.1	1989		70.9	1990		44.4	1964
24	102.0	1988		63.8	1952		71.8	1959		45.3	1976
25	101.0	1974		62.4	1969		75.3	1988		39.8	1953+
26	102.5	1970		62.9	1942		75.4	1981		42.1	1978
27	101.9	1958		60.6	1942		75.3	1981		43.4	1942
28	102.4	1961		65.0	1959		74.3	1986		40.3	1945
29	103.5	1979		63.9	1959		72.0	1935		42.2	1968
30	103.4	1990		72.8	1959		74.8	1990		39.9	1968
mnth	103.5	1979/29		48.7	1947/11		75.4	1981/26		34.8	1962/7

+...Also in earlier years

TABLE 4g

DAILY MAXIMUM AND MINIMUM TEMPERATURE EXTREMES, 1928-1991

JULY

DAY	HIGH MAX	YEAR		LOW MAX	YEAR		HIGH MIN	YEAR		LOW MIN	YEAR
1	101.0	1950		69.8	1928		77.4	1990		40.0	1968
2	100.5	1990		72.9	1938		70.3	1948		43.3	1968
3	100.9	1985		73.3	1983		72.8	1988		48.9	1966
4	101.8	1936		73.2	1938		70.9	1988		46.7	1938
5	103.6	1973		65.2	1982		71.8	1988		43.8	1932
6	101.7	1973		74.0	1938+		74.0	1981+		44.2	1938
7	101.5	1976		75.8	1955		73.4	1985		41.2	1928
8	100.5	1976		76.4	1937		74.0	1963		45.1	1955
9	102.1	1939		77.6	1946		72.7	1989		48.1	1959
10	103.5	1973		70.6	1983		79.0	1956		50.2	1946
11	102.5	1976		71.8	1936		76.0	1981		48.2	1983
12	103.0	1934		75.0	1936		73.5	1980		49.0	1951
13	102.3	1939		73.6	1962		73.0	1964		46.8	1943
14	102.9	1939		78.3	1962		71.3	1931		49.0	1932
15	102.7	1960		75.1	1983		72.8	1931		52.4	1962
16	103.2	1960		82.7	1940		75.0	1968		52.0	1956
17	103.1	1960		77.7	1986		74.5	1966		52.8	1943
18	103.5	1960		74.8	1987		72.4	1977		54.2	1939
19	104.1	1960		70.0	1973		77.2	1984+		52.5	1958
20	104.6	1960		79.7	1951		72.8	1960		50.2	1932
21	105.7	1931		80.0	1972+		75.0	1966		49.6	1932
22	103.1	1931		73.5	1973		74.5	1982		47.1	1954
23	103.2	1931		80.0	1986		72.4	1989		46.9	1954
24	105.4	1931		76.6	1977		77.2	1953		50.2	1954
25	103.0	1933		69.7	1941		77.4	1953		51.4	1964
26	106.6	1960		79.6	1990		74.0	1984		54.2	1932
27	103.9	1960		83.9	1941		74.2	1960		47.5	1963
28	106.4	1934		71.0	1948		76.6	1931		51.0	1929
29	103.5	1972		76.6	1950		75.4	1976		45.2	1948
30	103.0	1934		77.0	1931		74.4	1935		48.3	1950
31	102.3	1990		77.6	1975		76.8	1989		45.0	1950
mnth	106.6	1960/26		65.2	1982/5		79.0	1956/10		40.0	1968/1

+...Also in earlier years

TABLE 4h

DAILY MAXIMUM AND MINIMUM TEMPERATURE EXTREMES, 1928-1991

AUGUST

DAY	HIGH MAX	YEAR		LOW MAX	YEAR		HIGH MIN	YEAR		LOW MIN	YEAR
1	101.6	1979		78.5	1965		74.4	1989		49.1	1932
2	102.0	1934		78.7	1928		72.2	1981+		45.0	1928
3	101.8	1960		77.4	1951		71.8	1962		47.0	1928
4	104.0	1979		75.9	1951		70.1	1983+		47.7	1944
5	102.9	1979		78.3	1962		73.4	1946		50.4	1928
6	99.6	1983+		74.3	1939		75.1	1975		48.3	1950
7	99.1	1983+		79.2	1939		75.1	1983		49.0	1928
8	102.6	1990		81.7	1938		73.4	1983+		48.8	1976
9	103.1	1940		77.4	1985+		72.7	1990		50.6	1931
10	101.0	1935		75.8	1947		72.1	1983		50.2	1939
11	102.0	1972		72.1	1985		73.7	1991		47.8	1932
12	101.9	1940		74.1	1930		71.5	1980		48.9	1935
13	102.1	1937		74.0	1930		70.1	1970		50.2	1932
14	99.9	1960		68.4	1978		70.6	1963		47.1	1938
15	101.1	1962		68.4	1968		72.2	1943		49.0	1938
16	98.5	1986		72.0	1960		72.4	1929		47.5	1976
17	100.0	1934		69.0	1978		73.2	1986		47.9	1968
18	98.7	1932		69.6	1968		72.0	1934		44.9	1954
19	99.2	1961		65.7	1980		71.8	1932		47.0	1978
20	102.8	1960		71.4	1964		73.6	1961		40.0	1928
21	102.3	1960		70.0	1968+		74.3	1960		43.0	1964
22	98.9	1991		59.7	1968		72.7	1937		45.0	1933
23	98.7	1967		69.6	1968		70.3	1991		44.0	1933
24	98.9	1967		63.4	1989		70.0	1955		39.7	1928
25	99.6	1985		71.0	1933		69.6	1981		43.7	1928
26	100.5	1985		69.6	1977		73.7	1981		43.0	1933
27	98.7	1937		69.0	1977		69.9	1985		42.0	1964
28	96.6	1961+		74.6	1977		70.0	1984		42.2	1964
29	99.4	1948		68.2	1964		68.4	1981		36.8	1964
30	100.0	1954		61.2	1932		68.3	1983		38.3	1964
31	97.5	1950		69.3	1932		67.3	1983+		36.6	1965
mnth	104.0	1979/4		59.7	1968/22		75.1	1983/7+		36.6	1965/31

+...Also in earlier years

TABLE 4i

DAILY MAXIMUM AND MINIMUM TEMPERATURE EXTREMES, 1928-1991

SEPTEMBER

DAY	HIGH MAX	YEAR		LOW MAX	YEAR		HIGH MIN	YEAR		LOW MIN	YEAR
1	96.3	1985		57.3	1973		71.0	1929		43.0	1932
2	97.6	1947		63.8	1973		69.8	1990		40.9	1964
3	96.0	1950		65.2	1941		67.1	1990+		38.6	1961
4	98.0	1950		68.9	1929		71.3	1978		41.1	1964
5	96.0	1967		54.9	1970		73.1	1978		40.6	1956
6	96.7	1979		56.1	1970		70.0	1933		43.7	1943
7	98.6	1979		59.8	1928		67.2	1986		44.3	1948
8	100.0	1979		57.2	1973		69.0	1952		37.5	1962
9	94.6	1990		66.6	1928		71.6	1979		33.8	1962
10	93.8	1958		64.2	1986		65.6	1972		38.4	1932
11	97.1	1990		58.8	1950		69.9	1959		38.2	1947
12	99.0	1990		62.6	1988		69.0	1984		36.0	1928
13	93.3	1948		55.6	1988		66.1	1968		32.2	1928
14	96.1	1990		60.9	1982		63.1	1955		35.0	1928
15	92.3	1943		62.0	1933		71.0	1990		33.3	1936
16	91.0	1943		54.9	1965		64.3	1990		33.4	1936
17	93.2	1937		43.4	1965		62.2	1943		31.2	1965
18	94.0	1937		51.5	1978		64.0	1930		27.0	1965
19	96.7	1956		54.5	1978		65.0	1984		31.3	1964
20	91.0	1933		57.9	1941		62.3	1929		29.7	1965
21	89.5	1944		52.2	1961		58.2	1929		34.9	1968
22	91.1	1954		57.3	1961		62.0	1934		32.4	1968
23	91.0	1966		54.8	1941		62.4	1979		31.3	1968
24	89.0	1979		41.0	1934		60.9	1966		32.1	1961
25	89.5	1979		47.0	1934		64.3	1949		29.6	1970
26	88.7	1956		51.0	1934		63.9	1989		31.1	1970
27	90.5	1969		52.9	1982		58.7	1957		31.0	1934
28	90.0	1957		54.0	1982+		64.4	1981		30.7	1936
29	90.6	1969+		46.7	1982		62.2	1947		32.6	1986+
30	89.8	1957		49.3	1950		58.4	1938		29.5	1954
mnth	100.0	1979/8		41.0	1934/24		73.1	1978/5		27.0	1965/18

+...Also in earlier years

TABLE 4j

DAILY MAXIMUM AND MINIMUM TEMPERATURE EXTREMES, 1928-1991

OCTOBER

DAY	HIGH MAX	YEAR	LOW MAX	YEAR	HIGH MIN	YEAR	LOW MIN	YEAR
1	87.7	1957	45.1	1971	65.5	1953	31.1	1950
2	87.5	1979	51.7	1971	58.5	1929	31.1	1959
3	88.6	1963	56.2	1969	58.0	1948	31.0	1959
4	85.8	1963	53.4	1951	56.2	1963	33.0	1928
5	85.1	1947	44.7	1941	61.8	1990	29.5	1932
6	85.5	1975	46.3	1946	61.0	1975	25.7	1955
7	87.5	1979	49.6	1949	57.8	1960	30.9	1955
8	84.6	1979+	44.9	1949	57.1	1954	29.4	1959
9	84.4	1963	41.2	1960	57.0	1983	28.9	1968
10	84.7	1955	49.3	1949	63.3	1962	28.0	1932
11	84.1	1980	49.7	1947	56.0	1944	26.8	1946
12	83.1	1958	46.9	1969	58.3	1968	28.2	1986
13	84.7	1958	47.6	1966	63.4	1962	31.0	1986
14	81.1	1958	45.1	1969	56.0	1938	27.8	1954
15	83.4	1958	43.6	1980	54.7	1946	26.3	1966
16	84.9	1991	42.0	1980	53.2	1972	26.8	1930
17	82.6	1958	43.2	1938	54.0	1943	22.8	1964
18	84.2	1958	40.8	1984+	49.6	1958	23.4	1964
19	81.8	1958	43.1	1949	51.0	1955+	25.8	1976
20	81.0	1950	40.8	1949	55.2	1961	24.3	1932
21	78.6	1967	42.3	1949	51.6	1989	26.8	1958
22	77.0	1973	45.3	1935	53.0	1991+	23.9	1966
23	77.1	1952	42.3	1975	51.4	1940	23.8	1935
24	77.9	1959	39.0	1956	52.6	1939	20.6	1935
25	78.2	1979	41.2	1954	54.0	1940	18.8	1932
26	79.5	1977	43.5	1970	52.8	1950	27.9	1970
27	76.3	1977	43.0	1991	51.9	1945	24.2	1970
28	78.5	1990	32.6	1971	50.1	1977	23.0	1970
29	79.2	1964	29.5	1971	60.4	1950	18.1	1971
30	77.3	1950	34.9	1971	65.9	1950	16.1	1971
31	73.0	1988	35.1	1971	48.0	1954	17.5	1935
mnth	88.6	1963/3	29.5	1971/29	65.9	1950/30	16.1	1971/30

+...Also in earlier years

TABLE 4k

DAILY MAXIMUM AND MINIMUM TEMPERATURE EXTREMES, 1928-1991

NOVEMBER

DAY	HIGH MAX	YEAR		LOW MAX	YEAR		HIGH MIN	YEAR		LOW MIN	YEAR
1	71.8	1988+		36.9	1971		51.4	1987		15.8	1971+
2	72.7	1965		33.4	1936		50.1	1988		13.8	1956
3	70.7	1965		30.0	1936		48.5	1988		5.5	1936
4	70.2	1983		33.0	1935		54.4	1977		15.0	1936
5	71.2	1945		37.0	1935		47.4	1945		18.0	1935
6	74.2	1931		32.1	1947		52.4	1966		15.6	1947
7	73.8	1931		35.5	1945		46.0	1973		19.0	1961
8	69.5	1973		34.0	1945		43.2	1974		16.7	1948
9	73.7	1958		31.6	1950		43.0	1949		16.9	1948
10	68.8	1973		34.3	1978		44.6	1949		13.4	1950
11	72.4	1954		35.2	1938		47.0	1954		17.0	1935
12	74.7	1967		31.2	1938		47.7	1953		14.8	1929
13	70.0	1953		34.0	1964		50.2	1981		14.2	1959
14	70.8	1967		33.0	1964		51.2	1953		3.2	1955
15	70.0	1941		14.8	1955		45.9	1966		-10.0	1955
16	67.5	1981		16.0	1955		49.1	1941		-13.6	1955
17	67.8	1981		27.6	1955		46.4	1950		9.6	1958
18	62.7	1967		29.9	1958		47.0	1942		5.8	1958
19	66.8	1943		28.0	1930		45.2	1946		3.0	1930
20	64.6	1966		25.5	1977		44.2	1966		2.0	1930
21	64.6	1932		24.9	1931		45.0	1974		5.2	1931
22	63.0	1933		26.8	1931		41.0	1981		3.0	1930
23	60.8	1988		25.1	1931		43.1	1965		5.4	1940
24	63.8	1981		22.5	1931		46.9	1960		0.0	1931
25	68.6	1960		28.0	1952		46.0	1960		0.8	1931
26	67.5	1949		26.8	1952		45.8	1960		2.1	1952
27	67.2	1949		26.3	1930		39.3	1955		6.0	1952
28	65.7	1932		26.8	1930		39.0	1970		7.0	1976
29	63.3	1932		27.8	1975		41.0	1945		5.2	1931
30	61.0	1932		25.8	1930		42.0	1932		6.1	1931
mnth	74.7	1967/12		14.8	1955/15		54.4	1977/4		-13.6	1955/16

+...Also in earlier years

TABLE 41

DAILY MAXIMUM AND MINIMUM TEMPERATURE EXTREMES, 1928-1991

DECEMBER

DAY	HIGH MAX	YEAR		LOW MAX	YEAR		HIGH MIN	YEAR		LOW MIN	YEAR
1	61.0	1973		23.8	1930		39.0	1947		6.3	1991+
2	60.8	1939		23.5	1930		40.4	1947		6.0	1934
3	59.0	1939		27.3	1963		49.0	1980		4.9	1931
4	58.4	1980		25.9	1963		47.0	1946		10.0	1971
5	59.9	1946		16.9	1972		42.2	1946		- 2.8	1972
6	57.7	1987		23.4	1978		41.0	1946		8.5	1931
7	59.6	1939		19.0	1978		38.0	1983		0.8	1951
8	62.2	1939		18.2	1978		40.7	1950		- 3.4	1956
9	62.2	1939		12.7	1972		48.3	1939		-11.0	1972
10	66.1	1939		17.4	1961		51.0	1929		-12.8	1972
11	58.9	1933		11.5	1972		45.0	1929		-12.0	1932
12	59.0	1929		7.9	1932		48.3	1929		-20.0	1932
13	59.6	1929		10.9	1932		45.0	1929		-21.4	1932
14	63.5	1929		15.0	1932		46.3	1977		-19.0	1932
15	58.8	1946		16.8	1932		39.4	1946		-14.7	1972
16	57.8	1939		18.2	1932		40.9	1957		-13.8	1932
17	58.0	1939		18.7	1932		37.0	1939		- 4.2	1931
18	50.8	1955		23.4	1964		35.7	1955		1.0	1932
19	53.8	1955		26.2	1930		46.0	1955		- 1.0	1931
20	60.6	1981		22.2	1949		40.4	1941		- 6.6	1990
21	66.5	1969		11.4	1990		44.2	1964		- 9.4	1990
22	57.4	1964		2.0	1990		49.1	1955		- 9.8	1990
23	58.7	1933		9.1	1990		51.9	1955		-10.8	1990
24	57.0	1955		11.4	1990		41.0	1971		- 6.7	1990
25	59.2	1955		18.1	1990		46.0	1955		- 6.7	1930
26	60.0	1933		19.0	1970		43.0	1955		- 6.2	1930
27	56.8	1933		17.8	1988		41.0	1934		- 4.3	1930
28	57.2	1933		24.2	1939		40.3	1945		- 1.7	1930
29	57.6	1933		20.2	1988		41.4	1933		- 7.0	1990
30	51.0	1933		13.2	1990		42.3	1933		- 8.6	1990
31	58.3	1942		19.8	1978		39.2	1942		- 7.3	1990
mnth	66.5	1969/21		2.0	1990/22		51.9	1955/23		-21.4	1932/13

+...Also in earlier years

TABLE 5a

#NORMAL AND HIGHEST AND LOWEST DAILY MAXIMA
BY MONTHS WITH DAY AND YEAR OF OCCURRENCE
1928 - 1991

Month	#Normal Daily Maximum	Highest Daily Maximum			Lowest Daily Maximum		
		Temp	Day	Year	Temp	Day	Year
January	37.4	61.5	26	1982	3.6	12	1963
February	43.7	68.5	28	1972	6.0	7	1933
March	51.5	77.9	24	1956	26.2	4	1933
April	61.1	86.0	29	1992	34.9	1	1936
May	72.4	92.9	19	1958	38.7	2	1964
June	83.3	103.5	29	1979+	48.7	11	1947
July	93.2	106.6	26	1960	65.2	5	1982
August	90.0	104.0	4	1979	59.7	22	1968
September	80.0	100.0	8	1979	41.0	24	1934
October	66.7	88.6	3	1963	29.5	29	1971
November	50.2	74.7	12	1969	14.8	15	1955
December	38.9	66.5	21	1969	2.0	22	1990
Annual	64.0	106.6	July 26	1960	2.0	Dec 22	1990

#Climatological Normals (1951 - 1980)
+Also equaled on 21 June 1961

TABLE 5b

#NORMAL AND HIGHEST AND LOWEST DAILY MINIMA
BY MONTHS WITH DAY AND YEAR OF OCCURENCE
1928 - 1991

Month	#Normal Daily Minimum	Lowest Daily Minimum			Highest Daily Minimum		
		Temp	Day	Year	Temp	Day	Year
January	19.7	-21.7	25	1949	47.0	14	1980
February	24.4	-30.0	9	1933	51.3	18	1986
March	29.9	1.8	4	1966	56.0	29	1943
April	37.2	14.2	2	1936	64.1	21	1989
May	45.2	25.4	6	1965	68.7	23	1934
June	53.3	34.8	7	1962+	75.4	26	1981
July	61.8	40.0	1	1968	79.0	10	1956
August	59.7	36.6	31	1965	75.1	7	1983+
September	50.0	27.0	18	1965	73.1	5	1978
October	39.3	16.1	30	1971	65.9	30	1950
November	29.2	-13.6	16	1955	54.4	4	1977
December	21.6	-21.4	13	1932	51.9	23	1955
Annual	39.3	-30.0	Feb. 9	1933	79.0	July 10	1956

#Climatological Normals (1951-1980)
+Also occurred in earlier years.

TABLE 6a

NORMAL#; HIGHEST AND LOWEST AVERAGE MAXIMUM TEMPERATURE
BY MONTHS WITH YEAR OF OCCURENCE
1928 - 1991

Month	Normal Monthly Maximum	Highest Average Maximum	Year	Lowest Average Maximum	Year
January	37.4	48.1	1953	21.7	1949
February	43.7	51.8	1934	29.1	1933
March	51.5	62.0	1934	40.5	1952
April	61.1	70.7	1934	53.4	1975
May	72.4	82.4	1934	63.8	1933
June	83.3	92.2	1961	73.0	1945
July	93.2	98.2	1960	87.2	1986
August	90.0	95.7	1967	82.3	1968
September	80.0	87.5	1979	70.8	1965
October	66.7	74.3	1988	56.4	1946
November	50.2	57.2	1949	41.6	1938
December	38.9	48.1	1939	28.1	1930
Annual	64.0	98.2	7/ 1960	21.7	1/ 1949

TABLE 6b

NORMAL#; HIGHEST AND LOWEST AVERAGE MINIMUM TEMPERATURE
BY MONTHS WITH YEAR OF OCCURENCE
1928 - 1991

Month	Normal Monthly Minimum	Highest Average Minimum	Year	Lowest Average Minimum	Year
January	19.7	36.9	1953	1.4	1949
February	24.4	33.6	1986	3.4	1933
March	29.9	38.9	1992	27.2	1964
April	37.2	44.0	1992	32.5	1970+
May	45.2	52.5	1992	40.6	1930
June	53 3	61.3	1988	47.5	1945
July	61.8	67.2	1985	58.4	1958
August	59.7	66.1	1983	53.2	1928
September	50.0	58.8	1990	43.8	1964
October	39.3	45.6	1988	33.9	1932
November	29.2	35.9	1953	19.3	1930
December	21.6	30.8	1950	6.5	1932
Annual	39.3	67.2	7/ 1985	1.4	1/ 1949

+ Also in earlier years.
# Climatological normals (1951 - 1980)

TABLE 7

NORMAL, HIGHEST AND LOWEST MONTHLY MEAN TEMPERATURE

1928 - 1991

	MAX	YEAR	MIN	YEAR		MAX	YEAR	MIN	YEAR
JANUARY	39.5	1953	11.6	1949	JULY	81.2	1960	73.8	1938
Normal Monthly Mean	36.3	1978	13.2	1937	Normal Monthly Mean	81.1	1989	74.2	1986
28.6	35.7	1938	18.8	1931,32	77.5	80.9	1988	74.3	1932,50
	35.5	1956	19.2	1944		80.7	1985	74.6	1952
	35.2	1983	19.5	1963		80.1	1966	74.8	1928
FEBRUARY	42.2	1934	16.2	1933	AUGUST	78.6	1967	69.4	1968
Normal Monthly Mean	41.7	1958	22.6	1939	Normal Monthly Mean	78.4	1982,91	70.6	1928
34.1	41.4	1986	22.8	1949	74.9	78.0	1981	70.9	1965
	40.4	1976	24.0	1929,55		77.9	1986+	71.9	1964
	40.3	1957	25.3	1989		77.8	1958,61	72.3	1976
MARCH	49.3	1992	32.0	1964	SEPTEMBER	72.0	1990	57.5	1965
Normal Monthly Mean	49.2	1934	33.3	1952	Normal Monthly Mean	71.4	1979	59.0	1970
40.7	48.0	1978	35.1	1962	65.0	69.7	1969	59.8	1971
	47.7	1986	35.6	1948		68.7	1938	59.7	1941
	46.9	1972	35.8	1942		68.5	1981	60.0	1961
APRIL	57.1	1992	44.2	1970	OCTOBER	60.0	1988	46.6	1946
Normal Monthly Mean	56.6	1934	44.3	1963,75	Normal Monthly Mean	57.9	1950	47.1	1970
49.2	56.0	1930	44.4	1929	53.0	57.8	1963	47.5	1971
	55.9	1987	44.8	1945		57.5	1952	47.7	1969
	55.7	1985	45.5	1933		56.7	1979	48.1	1932
MAY	66.7	1934	52.2	1933	NOVEMBER	46.1	1953,65	31.8	1930
Normal Monthly Mean	65.6	1992	52.9	1953	Normal Monthly Mean	44.3	1949,81	32.4	1938
58.8	65.1	1958	53.2	1942	39.7	44.0	1954	33.0	1931
	64.0	1969	54.3	1950,75		43.6	1937	34.3	1952,56
	63.9	1985	54.7	1965		43.4	1974	34.5	1957
JUNE	75.7	1988	60.2	1945	DECEMBER	37.9	1977	18.0	1932
Normal Monthly Mean	74.7	1961	63.0	1944	Normal Monthly Mean	37.8	1933	18.8	1930
68.3	73.5	1986	63.2	1928,64	30.3	37.1	1955	21.0	1990
	73.4	1974	63.3	1963		36.4	1981	22.5	1931
	73.2	1977	63.6	1947		36.3	1937,39	22.7	1972

TABLE 7a

ANNUAL HIGHEST AND LOWEST AVERAGE TEMPERATURES

Highest Annual Average	Year		Lowest Annual Average	Year
55.2	1934	Normal Annual Mean 51.7	48.2	1932
54.3	1981		48.3	1964
53.8	1940		49.0	1929
53.6	1958		49.4	1930,44,55
53.5	1983		49.6	1942

Normals from Climatological Standard Normals 1951-1980

TABLE 8

RECORD NUMBER OF DAYS PER YEAR WITH MAXIMUM TEMPERATURES
90, 95, AND 100 DEGREES OR MORE
1928 - 1991

90 or Higher(1)		95 or Higher(2)		100 or Higher(3)	
Days	Year	Days	Year	Days	Year
82	1961	51	1961	21	1960
75	1988	47	1940	15	1961+
74	1966	44	1960	13	1931
70	1974	43	1967	12	1990+
69	1960+	40	1988	11	1973+
68	1967+	35	1979+	10	1934
67	1940	34	1931	9	1989+
66	1979	33	1989+	8	1978+
63	1990+	31	1990+	7	1972+
62	1948	30	1985+	6	1988+
54	Annual Avg	23	Annual Avg	5	Annual Avg

+ Also in earlier years
(1) - Only years with 62 or more days tabulated
(2) - Only years with 30 or more days tabulated
(3) - Only years with 6 or more days tabulated

TABLE 9

AVERAGE AND GREATEST NUMBER OF DAYS PER MONTH WITH MAXIMUM
TEMPERATURES 90, 95, AND 100 DEGREES OR MORE
1928 - 1991

Month	90 or Higher		95 or Higher		100 or Higher	
	Avg	Maximum	Avg	Maximum	Avg	Maximum
May	1	7-1958	0		0	
June	8	20-1961	3	16-1961	1	8-1961
July	23	31-1960	12	23-1960	3	15-1960
August	18	31-1967	7	22-1967	1	6-1960
September	4	12-1979+	1	5-1990	*	1-1979
Annual Avg	54	82-1961	23	51-1961	5	21-1960

+ Also occurred in earlier years.
* A high of 100.0 degrees was recorded on September 8, 1979 and is the only day in September ever to reach 100 degrees.

TABLE 10

GREATEST NUMBER OF CONSECUTIVE DAYS WITH A TEMPERATURE
OF 90 DEGREES OR MORE
1928 - 1991

Days	Period	Year	Days	Period	Year
50	Jul 18 - Sep 5	1967	24	Jul 28 - Aug 24	1963
39	Jul 4 - Aug 11	1966	22	Jul 18 - Aug 8	1989
38	Jul 5 - Aug 11	1961	22	Jul 20 - Aug 10	1942
38	Jun 24 - Jul 31	1960	21	Jul 22 - Aug 11	1978
33	Jul 10 - Aug 11	1969	21	Jul 17 - Aug 6	1974
33	Jul 10 - Aug 11	1964	21	Jul 23 - Aug 12	1972
31	Jul 2 - Aug 1	1968	21	Jul 11 - Jul 31	1959
30	Jul 24 - Aug 22	1971	21	Jul 8 - Jul 28	1956
27	Jul 5 - Jul 31	1935	19	Jun 28 - Jul 16	1985
26	Jul 28 - Aug 22	1940	19	Jul 24 - Aug 11	1979
25	Jul 8 - Aug 1	1933	19	Jun 24 - Jul 12	1979

Only periods of 19 days or more tabulated

TABLE 11

GREATEST NUMBER OF DAYS IN ONE MONTH WITH A TEMPERATURE
OF 90 DEGREES OR MORE
1928 - 1991

Days	Month	Year	Days	Month	Year
31	August	1967	27	July	1979+
31	July	1960	26	July	1978
30	July	1968+	25	August	1981+
29	July	1966+	25	July	1959+
28	July	1989+			

Only periods of 25 days or more tabulated
+ Also in July or August of earlier years

TABLE 12

EARLIEST DATE OF OCCURRENCE IN THE SPRING AND THE LATEST DATE OF
OCCURRENCE IN THE FALL OF 90 DEGREES OR MORE
1928 - 1991

Earliest in the Spring....................May 2, 1947

Latest in the Fall.................September 30, 1957

TABLE 13

GREATEST NUMBER OF CONSECUTIVE DAYS WITH A TEMPERATURE OF 95 DEGREES OR MORE
1928 - 1991

Days	Period	Year	Days	Period	Year
20	Jul 23 - Aug 11	1978	11	Jul 11 - Jul 21	1933
20	Jul 11 - Jul 30	1960	10	Jul 20 - Jul 29	1945
16	Jul 11 - Jul 26	1967	10	Jul 23 - Aug 1	1943
15	Jul 13 - Jul 27	1931	10	Jun 12 - Jun 21	1940
12	Jun 18 - Jun 29	1961	9	Jul 21 - Jul 29	1980
12	Aug 3 - Aug 14	1960	9	Jul 3 - Jul 11	1976
12	Jul 6 - Jul 17	1954	9	Jul 3 - Jul 11	1973
12	Jul 4 - Jul 15	1940	9	Aug 4 - Aug 12	1972
11	Aug 1 - Aug 11	1985	9	Jul 11 - Jul 19	1934
11	Jul 18 - Jul 28	1937	9	Aug 14 - Aug 22	1932
11	Jul 16 - Jul 26	1936			

Only periods of 9 days or more tabulated

TABLE 14

GREATEST NUMBER OF DAYS IN ONE MONTH WITH A TEMPERATURE OF 95 DEGREES OR MORE
1928 - 1991

Days	Month	Year	Days	Month	Year
23	July	1960	18	August	1969+
22	August	1967	18	July	1964+
22	July	1961	17	July	1976+
21	July	1989	16	July	1985+
20	July	1978+	16	June	1961
19	July	1967	16	August	1960

Only periods of 16 days or more tabulated
+ Also in July or August of earlier years

TABLE 15

EARLIEST DATE OF OCCURRENCE IN THE SPRING AND THE LATEST DATE OF OCCURRENCE IN THE FALL OF 95 DEGREES OR MORE
1928 - 1991

Earliest in the Spring..................June 4, 1988

Latest in the Fall.................September 19, 1956

TABLE 16

GREATEST NUMBER OF CONSECUTIVE DAYS WITH A TEMPERATURE
OF 100 DEGREES OR MORE
1928 - 1991

Days	Period	Year	Days	Period	Year
9	Jul 14 - Jul 22	1960	4	Jul 8 - Jul 11	1973
8	Jul 20 - Jul 27	1931	4	Jul 3 - Jul 6	1973
6	Jul 6 - Jul 11	1976	4	Aug 9 - Aug 12	1972
6	Jul 24 - Jul 29	1960	4	Aug 12 - Aug 15	1962
5	Jul 2 - Jul 6	1985	4	Jun 20 - Jun 23	1961
4	Jun 23 - Jun 26	1990	4	Jul 10 - Jul 13	1954
4	Jun 29 - Jul 2	1990	4	Jul 24 - Jul 27	1943
4	Aug 3 - Aug 6	1979	4	Jul 16 - Jul 19	1940
4	Jul 15 - Jul 18	1979	4	Jul 12 - Jul 15	1935
4	Jul 24 - Jul 27	1978			

Only periods of 4 days or more tabulated

TABLE 17

GREATEST NUMBER OF DAYS IN ONE MONTH WITH A TEMPERATURE
OF 100 DEGREES OR MORE
1928 - 1991

Days	Month	Year	Days	Month	Year
15	July	1960	7	July	1978+
12	July	1931	6	June	1990
9	July	1989+	6	July	1985+
8	July	1976+	6	August	1960
8	June	1961			

Only periods of 6 days or more tabulated
+ Also in July or August of earlier years

TABLE 18

EARLIEST DATE OF OCCURRENCE IN THE SPRING AND THE LATEST DATE OF
OCCURRENCE IN THE FALL OF 100 DEGREES OR HIGHER
1928 - 1991

Earliest in the Spring..................June 7, 1985

Latest in the Fall.................September 8, 1979

TABLE 19

GREATEST NUMBER OF DAYS IN ONE MONTH WITH A MAXIMUM TEMPERATURE OF 32 DEGREES OR BELOW
1928 - 1991

Days	Month	Year	Days	Month	Year
26	January	1949+	17	January	1929
25	January	1944	16	December	1972+
25	December	1930	16	January	1950
24	January	1931	15	January	1989+
23	January	1973	15	December	1967
22	January	1984+	15	February	1950
21	January	1979+	14	December	1990+
20	December	1985+	14	January	1988+
20	January	1942+	13	January	1985
19	January	1947	13	December	1968+
18	January	1964	13	February	1949
17	February	1933			

+ Also occurred in earlier years.
#Only months with 13 or more days tabulated.

TABLE 20

GREATEST NUMBER OF CONSECUTIVE DAYS WITH MAXIMUM TEMPERATURE OF 32 DEGREES OR BELOW
1928 - 1991

Days	Period	Days	Period
18	Dec 20, 1990 - Jan 6, 1991	14	Dec 23, 1987 - Jan 5, 1988
18	Jan 23, 1949 - Feb 9, 1949	14	Jan 8, 1987 - Jan 21, 1987
17	Jan 21, 1962 - Feb 6, 1962	14	Dec 29, 1972 - Jan 11, 1973
15	Dec 16, 1985 - Dec 30, 1985		
15	Jan 20, 1979 - Feb 5, 1979		
15	Dec 28, 1946 - Jan 11, 1947		

#Only periods of 14 or more days tabulated.

TABLE 21

AVERAGE NUMBER OF DAYS WITH MAXIMUM TEMPERATURE 32 DEGREES OR BELOW
1928 - 1991

November....1 day
December....7 days
January....10 days
February....4 days
March.....1 day
Annual...23 days

TABLE 22

GREATEST NUMBER OF CONSECUTIVE DAYS WITH A MINIMUM OF 32 DEGREES OR LOWER
1928 - 1991
(Only Periods of 55 Days or More Tabulated)

DAYS	TIME PERIOD
94	Nov 14, 1930 - Feb 15, 1931
88	Dec 1, 1932 - Mar 8, 1933
85	Nov 20, 1990 - Feb 12, 1991
81	Nov 15, 1928 - Feb 3, 1929
62	Jan 6, 1928 - Mar 8, 1928
62	Dec 21, 1943 - Feb 21, 1944
61	Dec 31, 1984 - Mar 1, 1985
60	Nov 21, 1963 - Jan 19, 1964
57	Dec 28, 1975 - Feb 22, 1976
55	Jan 3, 1955 - Feb 25, 1955

TABLE 23

AVERAGE NUMBER OF DAYS WITH A MINIMUM 32 DEGREES OR LOWER
1928 - 1991

January	-	28 days
February	-	23 days
March	-	19 days
April	-	7 days
May	-	1 day
June	-	0
July	-	0
August	-	0
September	-	Less than 1 day
October	-	5 days
November	-	21 days
December	-	27 days
ANNUAL AVERAGE	-	131 days

TABLE 24

GREATEST NUMBER OF DAYS IN ONE MONTH WITH A MINIMUM TEMPERATURE
OF 0 DEGREES OR BELOW
1928 - 1991

Days	Month	Year	Days	Month	Year
15	January	1949	7	January	1973
14	January	1937	7	December	1932
12	December	1930	6	January	1974+
11	February	1933	6	December	1931
9	December	1990	6	February	1929
9	December	1972	5	January	1984+
9	January	1932	5	February	1949
8	January	1942			

#Only months with 5 or more days tabulated.
+Also in earlier years.

TABLE 25

GREATEST NUMBER OF CONSECUTIVE DAYS WITH A MINIMUM TEMPERATURE
OF 0 DEGREES OR BELOW
1928 - 1991

Days	Period	Days	Period
13	Dec 20, 1930 - Jan 1, 1931	6	Jan 24, 1949 - Jan 29, 1949
8	Dec 9, 1972 - Dec 16, 1972	6	Jan 7, 1937 - Jan 12, 1937
7	Jan 20, 1937 - Jan 26, 1937	6	Dec 11, 1932 - Dec 16, 1932
7	Feb 4, 1933 - Feb 10, 1933	5	Dec 29, 1990 - Jan 2, 1991
6	Dec 20, 1990 - Dec 25, 1990	5	Jan 17, 1984 - Jan 21, 1984
6	Jan 3, 1973 - Jan 8, 1973	5	Jan 21, 1962 - Jan 28, 1962
		5	Feb 7, 1929 - Feb 11, 1929

#Only periods of 5 or more days tabulated.

TABLE 26

AVERAGE NUMBER OF DAYS WITH A MINIMUM TEMPERATURE 0 DEGREES OR BELOW
1928 - 1991

November....* day	January.....2 days	Annual....4 days
December....1 day	February....1 day	

*Less that 1/2 day

TABLE 27

FREEZE DATA-- SALT LAKE AIRPORT
1928 - 1991

FREEZE (32 degrees or below)					
Earliest Date in the Spring	Latest Date in the Spring	Average Date in the Spring	Earliest Date in the Fall	Latest Date in the Fall	Average Date in the Fall
Mar 11, 1992	May 28, 1954		Sep 13, 1928	Nov 14, 1988	
Mar 19, 1940	May 25, 1975		Sep 17, 1965	Nov 13, 1944	
Mar 21, 1989	May 23, 1966		Sep 18, 1946	Nov 11, 1987	
Mar 30, 1985	May 19, 1931		Sep 19, 1942	Nov 9, 1985	
Apr 3, 1944	May 19, 1938		Sep 19, 1964	Nov 8, 1983	
Apr 8, 1981	May 19, 1950		Sep 22, 1968	Nov 5, 1974	
Apr 8, 1973	May 19, 1960	April 30	Sep 24, 1961	Nov 3, 1940	October 15
Apr 9, 1952	May 16, 1955		Sep 25, 1958	Nov 1, 1977	
Apr 9, 1936	May 13, 1943		Sep 25, 1970	Oct 31, 1981	
Apr 10, 1976	May 13, 1951		Sep 27, 1934	Oct 30, 1979	
Apr 13, 1987	May 13, 1967		Sep 27, 1936	Oct 28, 1939	
Apr 13, 1980	May 11, 1930		Sep 28, 1941	Oct 28, 1957	
Apr 15, 1956	May 11, 1933		Sep 28, 1971	Oct 28, 1972	

*FREEZE-FREE PERIOD				
Longest		Shortest		Average Length
Days	Date	Days	Date	
223	Mar 30 - Nov 8, 1985	124	May 29 - Sep 29, 1954	
209	Mar 21 - Oct 17, 1989	132	May 8 - Sep 16, 1965	
205	Apr 20 - Nov 10, 1987	134	May 20 - Sep 30, 1950	
195	May 3 - Nov 13, 1988	136	May 6 - Sep 18, 1964	
195	Apr 27 - Nov 7, 1983	137	May 8 - Sep 21, 1968	
194	Apr 23 - Nov 2, 1940	139	May 24 - Oct 9, 1966	167 Days
194	Apr 21 - Oct 31, 1977	139	May 2 - Sep 17, 1946	
193	Apr 18 - Oct 27, 1939	139	May 23 - Oct 8, 1982	
193	May 4 - Nov 12, 1944	140	May 7 - Sep 23, 1961	
192	Apr 21 - Oct 29, 1979	141	May 1 - Sep 18, 1942	

*Freeze-free period is the number of days between the last freeze (32 degrees or below) in the spring and the first freeze (32 degrees or below) in the fall.

TABLE 28

GROWING SEASON DATA-- SALT LAKE AIRPORT
1928 - 1991

Min Temp Base	Latest in Spring	Spring Avg	First in Fall	Fall Avg
32 or Below	May 28 1954	Apr 30	Sep 13 1928	Oct 15
28 or Below	May 9 1930	Apr 12	Sep 18 1965	Oct 25
24 or Below	Apr 21 1982	Mar 24	Oct 17 1964	Nov 9
20 or Below	Apr 10 1933	Mar 10	Oct 25 1932	Nov 22
16 or Below	Apr 5 1955	Feb 24	Oct 30 1971	Nov 28
10 or Below	Mar 19 1965	Feb 9	Nov 3 1936	Dec 11

Min Temp Base	Minimum Length of Growing Season		Maximum Length of Growing Season		Avg Length
	Period	Days	Period	Days	Days
32 or Below	May 29 - Sep 29 1954	124	Mar 30 - Nov 9 1985	223	167
28 or Below	May 9 - Oct 16 1930	159	Mar 9 - Nov 26 1934	261	199
24 or Below	Apr 17 - Oct 29 1960	194	Jan 27 - Nov 26 1934	302	226
20 or Below	Apr 2 - Nov 2 1936	213	Jan 26 - Nov 30 1934	307	254
16 or Below	Apr 2 - Nov 2 1936	213	Dec 21 - Dec 5 1977 - 1978	348	278
10 or Below	Feb 28 - Nov 18 1929	262	Dec 26 - Dec 28 1952 - 1953	366	310

#Growing season is the number of days between the last selected minimum temperature base in the spring and the first selected minimum temperature base in the fall.

FIGURE 5

SALT LAKE CITY AIRPORT SEASONAL PRECIPITATION RECORD
1928-1929 to 1990-1991 (Water Year)#

INCHES 0 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

1928-29	(15.16)
1929-30	(15.13)
1930-31	(9.27)
1931-32	(14.54)
1932-33	(11.28)
1933-34	(8.16)
1934-35	(13.65)
1935-36	(13.37)
1936-37	(13.42)
1937-38	(12.87)
1938-39	(12.00)
1939-40	(11.34)
1940-41	(18.17)
1941-42	(15.49)
1942-43	(12.14)
1943-44	(18.85)
1944-45	(16.04)
1945-46	(12.35)
1946-47	(18.83)
1947-48	(14.36)
1948-49	(16.83)
1949-50	(15.50)
1950-51	(14.18)
1951-52	(19.29)
1952-53	(12.37)
1953-54	(11.78)
1954-55	(12.24)
1955-56	(12.53)
1956-57	(18.77)
1957-58	(12.81)
1958-59	(14.12)
1959-60	(10.43)
1960-61	(11.43)
1961-62	(16.88)
1962-63	(12.43)
1963-64	(15.58)
1964-65	(20.79)
1965-66	(9.53)
1966-67	(16.35)
1967-68	(18.84)
1968-69	(16.75)
1969-70	(17.76)
1970-71	(19.86)
1971-72	(14.03)
1972-73	(22.26)
1973-74	(15.64)
1974-75	(17.54)
1975-76	(16.31)
1976-77	(14.90)
1977-78	(19.23)
1978-79	(8.19)
1979-80	(16.73)
1980-81	(13.04)
1981-82	(25.15)
1982-83	(20.58)
1983-84	(23.82)
1984-85	(17.26)
1985-86	(23.40)
1986-87	(10.71)
1987-88	(9.94)
1988-89	(10.99)
1989-90	(10.88)
1990-91	(15.61)

#Water year extends from October 1 to September 30

TABLE 29

MAXIMUM AND MINIMUM ANNUAL TOTAL PRECIPITATION BY CALENDAR YEAR
1929 - 1991

Maximum Annual Precipitation					Minimum Annual Precipitation			
Amount	Year	Amount	Year		Amount	Year	Amount	Year
24.26	1983	19.87	1970		8.70	1979	10.11	1933
22.86	1982	19.40	1986	NORMAL	8.99	1966	10.34	1935
21.55	1984	18.79	1941	15.31	9.29	1988	10.69	1990
21.11	1968	18.49	1944		9.36	1939	10.72	1958
20.39	1973	18.44	1957		9.42	1931	10.87	1989

#Climatological normals (1951 - 1980)

TABLE 30*

THE AVERAGE TIME INTERVAL (RETURN PERIOD) BETWEEN THE OCCURRENCE OF THE LISTED PRECIPITATION AMOUNTS AND THAT OF AN EQUAL OR GREATER AMOUNT
1929 - 1970#

Return Period (Years)	Duration of Precipitation						
	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hrs	24 Hrs
1	.03	.06	.08	.13	.19	.28	.65
2	.15	.24	.29	.36	.45	.58	1.34
5	.24	.40	.48	.62	.74	.89	1.79
10	.30	.52	.64	.85	1.02	1.17	2.10
50	.43	.81	1.12	1.63	1.93	2.02	2.81
100	.48	.95	1.38	2.09	2.49	2.51	3.13

*This table, for example, states that the average time interval is 100 years before 0.48 inches of rain or more falls at the Salt Lake Airport in a 5 minute period, or 0.95 inches or more in a 10 minute period, or 1.38 inches or more in a 15 minute period, etc. In another example, the table also states that about once in every 10 years it is possible for 0.30 inches or more of precipitation to fall at the Salt Lake Airport in 5 minutes, 0.52 inches or more in 10 minutes, or 0.64 inches or more in 15 minutes, etc.

#This table was compiled using hourly data and Pearsons distribution system by Mr. A.L. Zimmerman, former Hydrologist in Charge of the Colorado Basin River Forecast Center.

TABLE 31

WATER YEAR PRECIPITATION
1928-1991

1	1933-34	8.16	63
2	1978-79	8.19	62
3	1930-31	9.27	61
4	1965-66	9.53	60
5	1987-88	9.94	59
6	1959-60	10.43	58
7	1986-87	10.71	57
8	1989-90	10.88	56
9	1988-89	10.99	55
10	1932-33	11.28	54
11	1939-40	11.34	53
12	1960-61	11.43	52
13	1953-54	11.78	51
14	1938-39	12.00	50
15	1942-43	12.14	49
16	1954-55	12.24	48
17	1945-46	12.35	47
18	1952-53	12.37	46
19	1962-63	12.43	45
20	1955-56	12.53	44
21	1957-58	12.81	43
22	1937-38	12.87	42
23	1980-81	13.04	41
24	1935-36	13.37	40
25	1936-37	13.42	39
26	1934-35	13.65	38
27	1971-72	14.03	37
28	1958-59	14.12	36
29	1950-51	14.18	35
30	1947-48	14.36	34
31	1931-32	14.54	33
32	1976-77	14.90	32
33	1929-30	15.13	31
34	1928-29	15.16	30
35	1941-42	15.49	29
36	1949-50	15.50	28
37	1963-64	15.58	27
38	1990-91	15.61	26
39	1973-74	15.64	25
40	1944-45	16.04	24
41	1975-76	16.31	23
42	1966-67	16.35	22
43	1979-80	16.73	21
44	1968-69	16.75	20
45	1948-49	16.83	19
46	1961-62	16.88	18
47	1984-85	17.26	17
48	1974-75	17.54	16
49	1969-70	17.76	15
50	1940-41	18.17	14
51	1956-57	18.77	13
52	1946-47	18.83	12
53	1967-68	18.84	11
54	1943-44	18.85	10
55	1977-78	19.23	9
56	1951-52	19.29	8
57	1970-71	19.86	7
58	1982-83	20.58	6
59	1964-65	20.79	5
60	1972-73	22.26	4
61	1985-86	23.40	3
62	1983-84	23.82	2
63	1981-82	25.15	1

TABLE 32

NORMAL, MAXIMUM AND MINIMUM MONTHLY PRECIPITATION TOTALS

1928 - 1991

	MAX	YEAR	MIN	YEAR		MAX	YEAR	MIN	YEAR
JANUARY	3.14	1940	.09	1961	JULY	2.57	1982	T*	1963
Normal Monthly Total	2.87	1980	.17	1935	Normal Monthly Total	2.52	1962	.01	1947
1.35	2.73	1953	.34	1948	0.72	2.17	1951	.02	1960
	2.39	1956	.39	1945		1.92	1945	.04	1988+
	2.33	1978	.41	1966		1.72	1984	.05	1958
FEBRUARY	3.22	1936	.12	1946	AUGUST	3.66	1968	T*	1944
Normal Monthly Total	2.84	1969	.13	1988	Normal Monthly Total	3.28	1945	.03	1985+
1.33	2.32	1968	.27	1931	0.92	3.06	1930	.07	1967
	2.25	1980	.35	1990+		2.94	1932	.10	1975
	2.20	1958	.39	1953		2.64	1983	.14	1939
MARCH	3.97	1983	.10	1956	SEPTEMBER	7.04	1982	T*	1951+
Normal Monthly Total	3.67	1944	.14	1965	Normal Monthly Total	4.07	1973	.02	1952
1.72	3.56	1952	.20	1955	0.89	2.80	1970	.03	1974
	3.47	1978	.48	1934		2.75	1986	.05	1987+
	3.44	1975	.57	1969		2.55	1991	.06	1932
APRIL	4.90	1944	.45	1981+	OCTOBER	3.91	1981	0	1952
Normal Monthly Total	4.57	1974	.46	1989	Normal Monthly Total	3.70	1984	T*	1978+
2.21	4.55	1986	.59	1977	1.14	3.61	1946	.01	1988
	4.43	1984	.64	1985		3.23	1971	.17	1935
	3.86	1963	.65	1954		2.79	1949	.18	1944
MAY	4.76	1977	T*	1934	NOVEMBER	2.63	1985	.01	1939
Normal Monthly Total	3.68	1981	.01	1940	Normal Monthly Total	2.57	1934	.03	1976
1.47	3.39	1986	.14	1972	1.22	2.52	1973	.05	1943
	3.37	1957	.18	1969		2.30	1945	.10	1959
	3.16	1942	.19	1929		2.27	1970	.13	1929
JUNE	2.93	1947	.01	1946+	DECEMBER	4.37	1983	.08	1976
Normal Monthly Total	2.83	1969	.03	1988	Normal Monthly Total	3.82	1964	.10	1986
0.97	2.78	1944	.04	1958	1.37	3.22	1972	.13	1989
	2.73	1967+	.06	1978+		2.90	1951	.28	1962
	2.61	1964	.07	1966		2.80	1970	.37	1980

* A trace means too small to measure.

+ Also in earlier years.

TABLE 33

MAXIMUM AND MINIMUM SEASONAL PRECIPITATION

Maximum Seasonal Precipitation	YEAR		Minimum Seasonal Precipitation	YEAR
25.14	1981-82	Normal Water Year Precipitation 15.31	8.16	1933-34
23.82	1983-84		8.19	1978-79
23.40	1985-86		9.27	1930-31
22.26	1972-73		9.53	1965-66
20.79	1964-65		9.94	1987-88
20.58	1982-83		10.43	1959-60
19.86	1970-71		10.71	1986-87

Normal from Climatological Standard Normals 1951-1980...15.23 based on 1928-88 period of record.
Water year begins October 1 and ends September 30.

FIGURE 6
RAINFALL CHART
PROBABILITY OF RAIN (BY PERCENTAGE) ON ANY GIVEN DAY, BASED ON SALT LAKE CITY AIRPORT RECORDS WHICH SHOW PRECIPITATION OF .01 INCHES OR MORE FROM JANUARY 1929 - NOVEMBER 1986

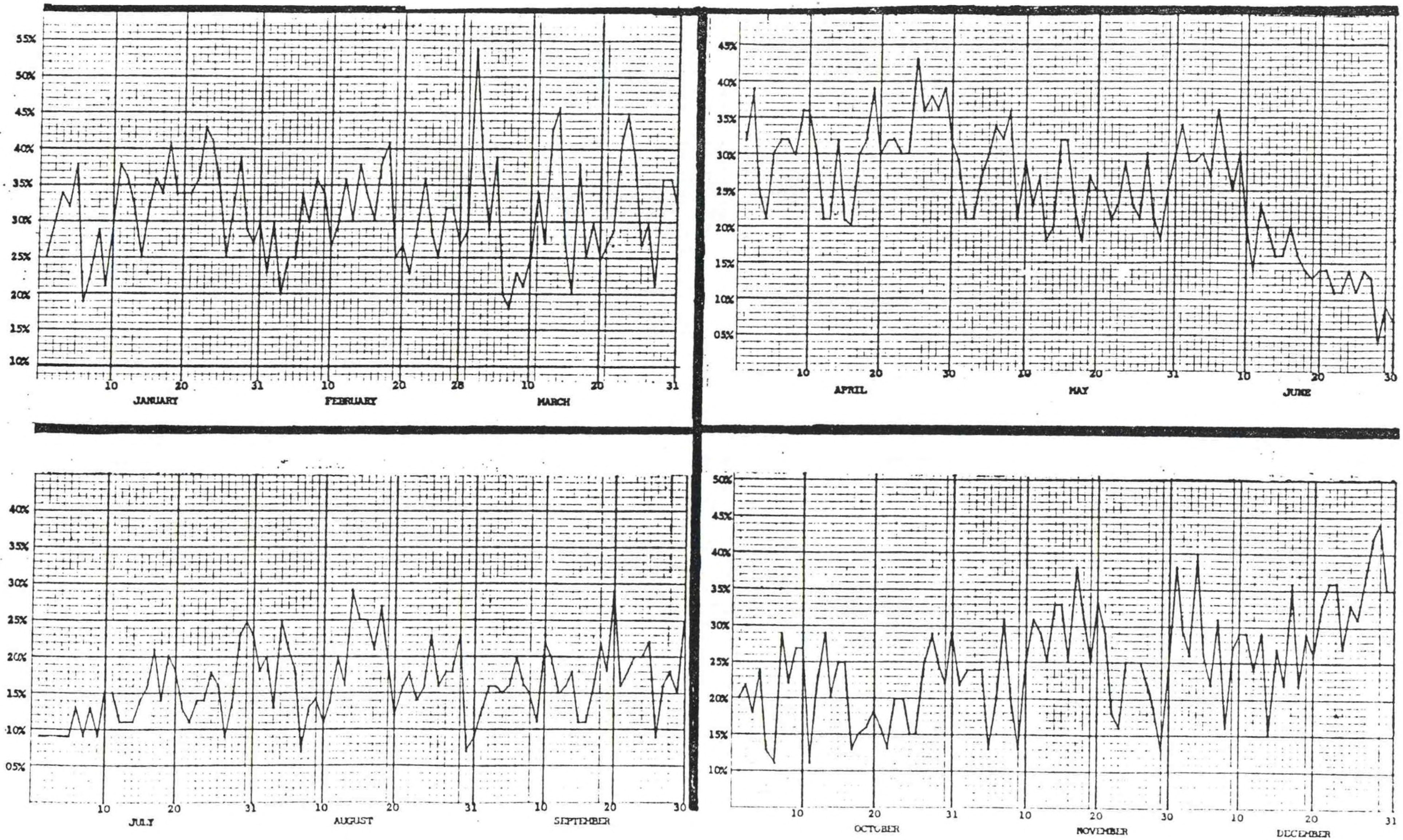


TABLE 34a

GREATEST 24-HOUR PRECIPITATION (Inches)
(Midnight to Midnight)
1928 - 1992

DAY	JANUARY 24-HR PCPN	JANUARY YEAR		FEBRUARY 24-HR PCPN	FEBRUARY YEAR		MARCH 24-HR PCPN	MARCH YEAR		APRIL 24-HR PCPN	APRIL YEAR
1	.20	1940		.43	1989		.59	1977		.95	1984
2	.75	1940		.89	1936		1.11	1941		1.57	1986
3	.45	1940		.40	1945		.66	1938		.43	1983
4	.27	1978		.44	1976		.63	1938		.67	1947
5	.81	1987		.47	1974		.55	1978		.76	1941
6	.41	1944		.81	1969		.48	1930		.62	1929
7	.32	1974+		.32	1950		.50	1960		.58	1946
8	.56	1975		.65	1959		.59	1986		.94	1949
9	.35	1950		.41	1976		.64	1987		1.19	1974
10	.26	1968		.36	1947		.65	1952		1.54	1974
11	.26	1965		.22	1949		.82	1990		.27	1970
12	.43	1932		.64	1952		.47	1944		.65	1944
13	.28	1971+		.60	1970		1.56	1944		.98	1972
14	1.36	1953		.54	1987		.41	1960+		1.01	1952
15	.65	1991		.55	1936		.92	1963		.51	1969
16	.56	1956		.44	1969		.53	1975		1.12	1941
17	.54	1978		.49	1955		.61	1968		.89	1953
18	.36	1951		.75	1954		.43	1937		1.07	1959
19	.61	1973		.38	1974		.68	1983		.95	1984
20	.56	1962		.45	1930		.69	1946		.90	1932
21	.53	1953		.45	1979		.71	1980		.56	1962
22	.81	1951		.38	1948		.83	1964		1.00	1957
23	.52	1967		.72	1930		.88	1949		1.46	1958
24	.54	1934		.55	1943		.66	1952		.70	1945
25	.46	1959		.90	1969		.68	1975		1.62	1976
26	.44	1969		.51	1981		.55	1981		.69	1962
27	.61	1956		.41	1947		.81	1940		.48	1963
28	.45	1965		.30	1930		.51	1963		.62	1970
29	.49	1980		.16	1940		.73	1967		.71	1967
30	.16	1958					.72	1948		.50	1953
31	.48	1939					.78	1936			
max	1.36	1953 /14th		.90	1969 /25th		1.56	1944 /12th		1.62	1976 /25th

+...Also in earlier years

TABLE 34b

GREATEST 24-HOUR PRECIPITATION (Inches)
(Midnight to Midnight)
1928 - 1991

DAY	MAY 24-HR PCPN	MAY YEAR		JUNE 24-HR PCPN	JUNE YEAR		JULY 24-HR PCPN	JULY YEAR		AUGUST 24-HR PCPN	AUGUST YEAR
1	.57	1987		.86	1943		.85	1980		.28	1960
2	.82	1938		.82	1991		.24	1949		1.72	1930
3	.56	1991		.58	1944		.05	1980		1.22	1945
4	.59	1975		.45	1984		.46	1961		1.62	1954
5	1.12	1965		.80	1954		.41	1982		.48	1977
6	.58	1986		.43	1932		.52	1937		.40	1946
7	.57	1933		.94	1964		.25	1984		.16	1979
8	1.03	1986		.94	1968		.27	1980		.94	1968
9	.87	1992		.98	1970		.52	1950		.37	1930
10	1.03	1985		.78	1945		.46	1936		.69	1947
11	1.20	1983		1.36	1947		.29	1930		.26	1959
12	.64	1956		.71	1967		.30	1989		.50	1930
13	1.03	1957		.43	1976		2.28	1962		.72	1978
14	.69	1977		.31	1955		.18	1959		.85	1968
15	.76	1981		.53	1956		.14	1942		.54	1961
16	1.55	1942		.43	1957		.94	1967		.38	1984
17	.86	1944		.62	1964		.69	1976		.70	1983
18	1.00	1977		.32	1975		.47	1965		.90	1983
19	1.08	1957		.41	1975		.90	1971		1.42	1945
20	1.00	1949		.40	1967		.24	1954		.97	1986
21	.89	1992		1.75	1948		.59	1987+		1.05	1965
22	.55	1976		.25	1948		.30	1979		1.04	1960
23	.53	1968		.27	1967		.16	1986		.45	1976
24	.25	1968		1.08	1969		.75	1955		.30	1949
25	1.27	1973		.36	1969		.23	1965		.16	1984
26	.59	1977		.42	1965		.53	1941		1.96	1932
27	.60	1959		.42	1959		.57	1951		.32	1932
28	.78	1935		.39	1959		1.25	1982		.51	1971
29	.63	1946		.22	1971		1.36	1969		.91	1958
30	.80	1937		.11	1940		1.65	1945		.15	1963
31	.56	1947					.75	1952		.32	1963
max	1.55	1942 /16th		1.75	1948 /21st		2.28	1962 /13th		1.96	1932 /26th

+...Also in earlier years

TABLE 34c

GREATEST 24-HOUR PRECIPITATION (Inches)
(Midnight to Midnight)
1928 - 1991

DAY	SEPTEMBER 24-HR PCPN	SEPTEMBER YEAR		OCTOBER 24-HR PCPN	OCTOBER YEAR		NOVEMBER 24-HR PCPN	NOVEMBER YEAR		DECEMBER 24-HR PCPN	DECEMBER YEAR
1	1.37	1973		.39	1983		.88	1936		.74	1982
2	.20	1973		.47	1976		.48	1938+		.73	1942
3	.73	1929		1.34	1951		.40	1988		.63	1938
4	.33	1940		.44	1939		.45	1940		.63	1948
5	2.19	1970		1.00	1944		.71	1972		.72	1956
6	.81	1965		.64	1977		.55	1953		.40	1951
7	1.29	1991		.67	1975		.63	1970		.74	1946
8	.81	1991		.50	1981		.47	1966		.91	1985
9	.64	1986		.46	1960		.35	1991		.98	1970
10	1.15	1982		1.05	1947		.82	1949		.35	1965
11	.86	1985		.57	1984		.66	1985		.79	1968
12	.17	1940		.59	1928		.63	1964		.89	1937
13	.89	1982		.84	1966		.43	1983		.39	1974
14	.66	1977+		.95	1968		.71	1955		.48	1983
15	.23	1959		1.06	1937		.93	1952		.51	1934
16	.31	1965		.94	1938		1.13	1954		.77	1936
17	1.38	1978		.64	1969		.67	1930		.77	1970
18	.82	1947		1.23	1984		1.01	1941		.52	1977
19	.56	1972		.65	1979		.50	1977		.37	1929
20	.57	1984		.67	1949		.41	1941		.45	1967
21	.42	1945		.40	1943		.50	1955		.34	1979+
22	.68	1977+		.32	1970		.78	1974		.46	1951
23	1.09	1973		.53	1991		.57	1946		1.10	1964
24	.41	1930		.64	1956		.44	1951		.53	1964
25	.95	1986		.52	1989		.52	1950		.56	1959
26	2.27	1982		.90	1982		.49	1973		.57	1946
27	.84	1982		.82	1991		.84	1960		.58	1948
28	.96	1982		1.08	1946		.31	1975		1.21	1972
29	.62	1950		.86	1981		.31	1975		.61	1972
30	1.20	1971		.45	1968		.56	1945		.30	1975+
31				.77	1971					.41	1940
max	2.27	1982 /26th		1.34	1951 /3rd		1.13	1954 /16th		1.21	1972 /28th

+...Also in earlier years

TABLE 35

RECORD MAXIMUM PRECIPITATION FOR SPECIFIED TIME PERIODS

MONTH	5 Minutes	10 Minutes	15 Minutes	30 Minutes	1 Hour	2 Hours	3 Hours	*24 Hours
JANUARY	.06 8/1975 13/1971	.10 13/1971	.12 14/1980 8/1975 13/1971	.22 14/1980	.39 14/1980	.58 14/1980	.78 14/1980	1.36 14/1953
FEBRUARY	.13 6/1950	.25 6/1950	.26 6/1950	.28 6/1950	.31 6/1950	.60 6/1969	.64 6/1969	1.05 25-26 1958
MARCH	.33 2/1989	.43 2/1989	.45 2/1989	.50 2/1989	.53 2/1989	.55 2/1989	.64 7-8 1960	1.83 13-14 1944
APRIL	.11 28/1973	.15 24/1951 30/1936	.20 23/1965	.33 23/1958	.44 25/1976 23/1958	.80 23/1958	.95 23/1958	2.41 22-23 1957
MAY	.30 26/1941	.44 26/1941	.47 26/1941	.48 26/1941	.48 26/1941	.52 10/1946	.71 19/1957	2.03 15-16 1942
JUNE	.26 24/1936	.32 15/1956	.36 24/1936	.46 24/1936	.48 21/1948 24/1936	.63 21/1948	.75 21/1948	1.88 21-22 1948
JULY	.50 13/1962	.92 13/1962	1.26 13/1962	1.79 13/1962	1.94 13/1962	1.99 13/1962	1.99 13/1962	2.35 12-13 1962
AUGUST	.34 19/1945	.52 4/1954	.78 4/1954	1.08 4/1954	1.31 4/1954	1.50 4/1954	1.53 4/1954	1.96 26/1932
SEPTEMBER	.35 14/1977	.45 14/1977	.57 14/1977	.62 14/1977	.63 14/1977	.74 26/1982	.97 26/1982	2.30 26-27 1982
OCTOBER	.12 2/1976 7/1975	.17 2/1983 10/1947	.25 10/1947	.39 10/1947	.60 10/1947	.83 10/1947	.95 10/1947	1.76 17-18 1984
NOVEMBER	.10 17/1948	.18 17/1948	.19 17/1948	.21 17/1948	.33 15/1952	.53 15/1952	.59 12/1964	1.13 16/1954
DECEMBER	.08 23/1982 23/1964	.10 23/1982 23/1964	.13 5/1956	.22 5/1956	.30 23/1964	.52 12/1937	.66 12/1937	1.82 28-29 1972
ANNUAL	.50 JULY 13/1962	.92 JULY 13/1962	1.26 JULY 13/1962	1.79 JULY 13/1962	1.94 JULY 13/1962	1.99 JULY 13/1962	1.99 JULY 13/1962	2.41 APRIL 22- 23/1957

Period of record 1936-1991...excluding 1938-40.
*Not confined to midnight-midnight.

TABLE 36

AVERAGE AND GREATEST NUMBER OF DAYS PER MONTH WITH
AT LEAST 0.01, 0.10, 0.50, AND 1.00 INCH OF PRECIPITATION
(MIDNIGHT - MIDNIGHT)
1928 - 1991

Month	0.01 Inch or More			0.10 Inch or More			0.50 Inch or More			1.00 Inch or More		
	Avg. Days	Most Days	Year	Avg. Days	Most Days	Year	Avg. Days	Most Days	Year	Avg. Days	Most Days	Year
JAN	10	16	1978+	4	9	1952+	*	3	1953	*	1	1953
FEB	9	15	1939+	4	10	1940	*	3	1936	0	0	
MAR	10	17	1975+	5	12	1983	1	3	1977+	*	1	1944+
APR	10	16	1978+	5	12	1963+	1	5	1944	*	2	1974+
MAY	8	17	1944	4	10	1981+	1	3	1986+	*	2	1957
JUN	5	17	1967	3	8	1969	*	2	1964+	*	1	1985+
JUL	4	12	1936	2	6	1965	*	3	1951	*	1	1969+
AUG	6	13	1945	2	7	1982	*	3	1971+	*	2	1945
SEP	5	15	1982	2	10	1982	1	5	1982	*	2	1982+
OCT	6	13	1981+	4	12	1981	1	3	1984+	*	1	1984+
NOV	8	17	1948	4	9	1985+	1	3	1955	*	1	1954+
DEC	10	24	1983	5	14	1983	*	3	1964	*	1	1972+
Annual	91	140	1983	43	71	1983	6	12	1977+	1	4	1957

+ Also occurred in earlier years
* Average of less than 1/2 day

TABLE 37

GREATEST NUMBER OF CONSECUTIVE DAYS WITH A TRACE* OR MORE
(15 OR MORE DAYS TABULATED)
1928 - 1991

Days	Dates	Total Rainfall
24	Nov 17 - Dec 10, 1983	2.19
18	Jan 28 - Feb 14, 1984	0.34
17	Dec 15 - Dec 31, 1968	1.13
16	Feb 11 - Feb 26, 1936	2.04
16	Apr 17 - May 2, 1951	2.62
16	Feb 8 - Feb 23, 1986	0.80
15	Dec 16 - Dec 30, 1985	0.23
15	Jan 24 - Feb 7, 1979	0.12
15	Feb 5 - Feb 19, 1978	1.56
15	Jan 19 - Feb 2, 1969	1.23
15	Mar 28 - Apr 11, 1958	1.57

* A trace means too small to measure

TABLE 38

GREATEST NUMBER OF CONSECUTIVE DAYS WITH 0.01 INCH OR MORE OF PRECIPTATION (8 OR MORE DAYS TABULATED)
1928 - 1991

Days	Dates	Total Rainfall
10	Feb 14 - Feb 23, 1980	2.12
9	Dec 19 - Dec 27, 1983	1.78
9	Dec 19 - Dec 27, 1981	1.34
9	May 20 - May 28, 1962	1.56
9	Dec 29 - Jan 6, 1940	2.66
8	Jun 3 - Jun 10, 1984	1.73
8	Sep 26 - Oct 3, 1983	1.47
8	Nov 22 - Nov 29, 1977	0.41
8	Jan 4 - Jan 11, 1975	0.98
8	Oct 24 - Oct 31, 1971	2.10
8	Feb 17 - Feb 24, 1968	0.93
8	Mar 27 - Apr 4, 1958	0.87
8	May 13 - May 21, 1949	2.27
8	Jan 8 - Jan 15, 1949	0.86
8	May 5 - May 12, 1933	1.54

TABLE 39

GREATEST NUMBER OF CONSECUTIVE DAYS WITH 0.10 INCH OR MORE OF PRECIPITATION (5 OR MORE DAYS TABULATED)
1928 - 1991

Days	Dates	Total Rainfall
7	Sep 24 - Sep 30, 1982	4.79
6	May 30 - Jun 3, 1944	2.32
5	May 14 - May 18, 1977	2.76
5	Apr 22 - Apr 26, 1971	1.32
5	Apr 26 - Apr 30, 1970	2.20
5	Jun 3 - Jun 7, 1945	1.64
5	Jun 1 - Jun 5, 1940	0.98
5	May 31 - Jun 4, 1936	1.24

TABLE 40

GREATEST NUMBER OF CONSECUTIVE DAYS WITH 0.25 INCH OR MORE OF PRECIPITATION (4 OR MORE DAYS TABULATED)
1928 - 1991

Days	Dates	Total Rainfall
5	May 14 - May 18, 1977	2.76
5	Jun 3 - Jun 7, 1945	1.64
4	May 6 - May 9, 1986	2.55
4	Apr 27 - Apr 30, 1970	2.05
4	May 21 - May 24, 1968	1.62
4	Nov 18 - Nov 21, 1950	1.18

TABLE 41

GREATEST NUMBER OF CONSECUTIVE DAYS WITHOUT EVEN A TRACE*
OF PRECIPITATION
1928 - 1991

Sep 12, 1952 - Nov 12, 1952	62 Days
Aug 18, 1944 - Sep 16, 1944	30 Days
Sep 20, 1978 - Oct 19, 1978	30 Days
Jun 18, 1944 - Jul 16, 1944	29 Days
Jan 2, 1961 - Jan 30, 1961	29 Days
Jun 27, 1931 - Jul 24, 1931	28 Days
Oct 3, 1933 - Oct 30, 1933	28 Days
Sep 13, 1942 - Oct 9, 1942	27 Days
Jun 25, 1963 - Jul 21, 1963	27 Days
Jul 30, 1985 - Aug 25, 1985	27 Days
May 2, 1934 - May 27, 1934	26 Days
Nov 7, 1936 - Dec 2, 1936	26 Days
Aug 30, 1943 - Sep 24, 1943	26 Days
Aug 12, 1950 - Sep 6, 1950	26 Days
Aug 23, 1962 - Sep 17, 1962	26 Days
Oct 15, 1962 - Nov 9, 1962	26 Days

* A trace means too small to measure.

TABLE 42

GREATEST NUMBER OF CONSECUTIVE DAYS WITHOUT MEASURABLE
PRECIPITATION, BUT INCLUDING TRACES
1928 - 1991

Sep 11, 1952 - Nov 12, 1952	63 Days
Jun 25, 1963 - Aug 24, 1963	61 Days
Jun 2, 1935 - Jul 26, 1935	56 Days
Jul 21, 1944 - Sep 17, 1944	56 Days
Sep 14, 1958 - Nov 4, 1958	52 Days
Jun 14, 1958 - Jul 28, 1958	45 Days
Oct 28, 1939 - Dec 10, 1939	44 Days
Jun 3, 1978 - Aug 14, 1978	42 Days
Sep 20, 1978 - Oct 31, 1978	42 Days
Aug 30, 1943 - Oct 6, 1943	38 Days
Aug 7, 1974 - Sep 13, 1974	38 Days
Sep 5, 1987 - Oct 11, 1987	37 Days
Sep 22, 1964 - Oct 28, 1964	37 Days
Aug 21, 1933 - Sep 23, 1933	36 Days
Aug 5, 1950 - Sep 8, 1950	35 Days
Dec 27, 1960 - Jan 30, 1961	35 Days
Aug 21, 1979 - Sep 24, 1979	35 Days
Aug 8, 1988 - Sep 11, 1988	35 Days

FIGURE 7

SALT LAKE CITY AIRPORT SEASONAL SNOWFALL RECORD

1929-1930 to 1991-1992 (Season)

INCHES 10 20 30 40 50 60 70 80 90 100 110 120

1929-30	(42.0)
1930-31	(33.9)
1931-32	(67.3)
1932-33	(70.9)
1933-34	(16.6)
1934-35	(38.7)
1935-36	(55.7)
1936-37	(73.0)
1937-38	(30.1)
1938-39	(43.6)
1939-40	(18.5)
1940-41	(30.1)
1941-42	(58.7)
1942-43	(31.4)
1943-44	(91.3)
1944-45	(37.9)
1945-46	(36.8)
1946-47	(47.7)
1947-48	(54.3)
1948-49	(88.2)
1949-50	(53.2)
1950-51	(36.0)
1951-52	(117.3)
1952-53	(46.6)
1953-54	(40.0)
1954-55	(70.1)
1955-56	(55.9)
1956-57	(57.2)
1957-58	(65.7)
1958-59	(42.0)
1959-60	(56.0)
1960-61	(31.3)
1961-62	(80.5)
1962-63	(44.5)
1963-64	(87.4)
1964-65	(46.9)
1965-66	(61.8)
1966-67	(74.6)
1967-68	(74.3)
1968-69	(89.2)
1969-70	(57.2)
1970-71	(61.1)
1971-72	(78.2)
1972-73	(87.2)
1973-74	(110.8)
1974-75	(72.6)
1975-76	(76.5)
1976-77	(60.3)
1977-78	(61.3)
1978-79	(64.6)
1979-80	(61.6)
1980-81	(30.2)
1981-82	(57.8)
1982-83	(55.8)
1983-84	(98.0)
1984-85	(72.7)
1985-86	(54.0)
1986-87	(37.5)
1987-88	(35.3)
1988-89	(60.0)
1989-90	(36.0)
1990-91	(46.8)
1991-92	(38.5)

The snow season extends from July 1 to June 30. The average annual snowfall at Salt Lake City International is 58.2 inches.

TABLE 43

NORMAL, MAXIMUM AND MINIMUM MONTHLY SNOWFALL (INCHES)

1928 - 1991

	MAX	YEAR	MIN	YEAR		MAX	YEAR	MIN	YEAR
JANUARY	32.3	1937	0.1	1961	JULY				
Normal Monthly Total	30.4	1967	2.4	1938	Normal Monthly Total				
13.7	30.1	1949	2.5	1935	0.0				
	28.1	1933	2.8	1970					
	25.2	1952	3.7	1948					
FEBRUARY	27.9	1969	T*	1953	AUGUST				
Normal Monthly Total	27.5	1989	0.3	1957	Normal Monthly Total				
9.4	20.9	1936	0.4	1988	0.0				
	20.1	1944+	0.8	1963+					
	19.0	1952	0.9	1931					
MARCH	41.9	1977	T	1940+	SEPTEMBER	4.0	1971	0	1991+
Normal Monthly Total	35.6	1952	0.2	1992	Normal Monthly Total	2.2	1965		
10.1	33.5	1964	0.4	1959	0.1	1.0	1978		
	30.8	1944	0.6	1955					
	25.3	1962	1.0	1986					
APRIL	26.4	1974	0	1954+	OCTOBER	20.4	1984	0	1990+
Normal Monthly Total	25.1	1984	T	1989+	Normal Monthly Total	16.6	1971		
5.3	23.6	1970	0.1	1935	1.3	10.4	1957		
	21.8	1955	0.2	1969		8.3	1961		
	15.5	1958				6.0	1972		
MAY	7.5	1975	0	1992+	NOVEMBER	27.2	1985	0	1976+
Normal Monthly Total	5.3	1965+			Normal Monthly Total	19.5	1973	T	1949+
0.6	5.0	1983			6.5	18.5	1931	0.4	1953
	4.6	1978				18.0	1975		
	2.9	1955				17.4	1978		
JUNE	T	1990+	0	1991+	DECEMBER	35.2	1972	0.9	1962
Normal Monthly Total					Normal Monthly Total	34.3	1948	1.0	1937
0.0					12.2	34.2	1983	1.2	1976
						33.3	1968	1.7	1989+
						27.3	1932	2.1	1942

Hail not included.

* Trace means too small to measure.

+ Also in earlier years.

TABLE 44

MAXIMUM AND MINIMUM SEASONAL SNOWFALL
1928 - 1992

Maximum Seasonal Snowfall	Year		Minimum Seasonal Snowfall	Year
117.3	1951-52	Normal Annual Snowfall 58.2	16.6	1933-34
110.8	1973-74		18.5	1939-40
98.0	1983-84		30.1	1940-41+
91.3	1943-44		30.2	1980-81
89.2	1968-69		31.3	1960-61

Normals from Climatological Standard Normals 1951-1980

+ Also in previous years.

TABLE 45a

GREATEST 24-HOUR SNOWFALL (Inches)
(Midnight to Midnight)
1928 - 1992

DAY	JANUARY MAX 24-HR SNOW	JANUARY YEAR		FEBRUARY MAX 24-HR SNOW	FEBRUARY YEAR		MARCH MAX 24-HR SNOW	MARCH YEAR		APRIL MAX 24-HR SNOW	APRIL YEAR
1	4.6	1937		10.9	1989		7.3	1977		6.0	1984+
2	4.0	1955		5.0	1936		10.1	1977		9.6	1955
3	6.3	1944		7.0	1936		4.2	1962		7.2	1983
4	3.3	1929		6.0	1938		3.0	1938		3.9	1947
5	6.1	1987		6.2	1974		2.4	1980		1.6	1941
6	7.6	1967		7.9	1969		4.0	1930		3.1	1968
7	7.7	1974		3.1	1966		2.0	1945		0.5	1982
8	6.4	1985		8.5	1959		2.6	1958		0.9	1984
9	3.4	1950		4.5	1965		4.8	1948		9.0	1929
10	4.0	1968		7.7	1984		7.4	1962		11.8	1974
11	3.5	1988		5.0	1949		11.0	1952		2.3	1991
12	5.7	1932		7.7	1952		1.8	1964		3.8	1974
13	3.0	1971+		5.8	1968		9.4	1944		7.9	1972
14	8.5	1953		7.2	1944		9.3	1944		1.5	1977
15	4.9	1991		3.1	1978		7.9	1964		2.2	1967
16	6.5	1959		4.2	1992		5.6	1958		4.2	1941
17	4.3	1936		3.1	1955		6.3	1968		3.7	1944
18	5.0	1964		7.4	1961		2.1	1968+		6.5	1972
19	7.5	1973		2.4	1989		6.1	1983		2.1	1987
20	9.7	1962		3.9	1985		4.4	1944		5.4	1968
21	4.5	1953		3.1	1975		6.4	1980		4.5	1968
22	5.4	1949		2.7	1942		11.5	1964		1.8	1970
23	5.5	1950		6.4	1956		2.8	1975		10.1	1958
24	4.9	1957		5.1	1972		4.7	1952		1.6	1945
25	3.6	1967		8.3	1969		4.5	1975		8.5	1975
26	4.7	1969		3.1	1958		4.2	1981		8.1	1955
27	5.1	1980		6.3	1947		2.6	1981		6.3	1991
28	5.8	1933		3.0	1930		3.0	1987		6.4	1970
29	9.9	1980		T	1984+		8.2	1967		5.8	1967
30	2.1	1932					5.2	1980		3.5	1970
31	6.8	1939					8.0	1936			
mnth	9.9	1980 /29th		10.9	1989 /1st		11.5	1964 /22nd		11.8	1974 /10th

*Hail not included
+...Also in earlier years

TABLE 45b

GREATEST 24-HOUR SNOWFALL (Inches)
(Midnight to Midnight)
1928 - 1991

	MAY			JUNE			JULY			AUGUST	
DAY	MAX 24-HR SNOW	YEAR		MAX 24-HR SNOW	YEAR		MAX 24-HR SNOW	YEAR		MAX 24-HR SNOW	YEAR
1	0.9	1988		T*	1990						
2	4.9	1964		T	1943						
3	2.2	1950									
4	4.0	1975									
5	5.3	1965		T	1954						
6	1.1	1975									
7	T	1979+									
8	1.0	1930									
9	T	1986+									
10	0.1	1953									
11	5.0	1983									
12	T	1982+									
13	T	1956+		T	1976						
14	T	1968									
15	2.9	1955									
16	T	1978+									
17	1.4	1971		T	1929						
18	1.0	1960									
19	T	1975+									
20	T	1975+									
21	T	1975+									
22	T	1975+									
23	0										
24	T	1980+									
25	T	1980									
26	T	1929									
27	T	1929									
28	T	1982									
29	0			T	1968						
30	0										
31	0										
mnth	5.3	1965 /5th		T	1990+						

Hail not included
* Trace means too small to measure.
+ Also in earlier years.

TABLE 45c

GREATEST 24-HOUR SNOWFALL (Inches)
(Midnight to Midnight)
1928 - 1991

	SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER	
DAY	MAX 24-HR SNOW	YEAR		MAX 24-HR SNOW	YEAR		MAX 24-HR SNOW	YEAR		MAX 24-HR SNOW	YEAR
1				0.7	1971		2.9	1956		7.3	1982
2				T*	1971		5.5	1957		4.5	1952
3				T	1969		3.1	1973		2.0	1971
4				0			3.0	1940		8.7	1948
5				T	1941		5.0	1947		4.4	1956
6				T	1970+		2.6	1986		6.1	1956
7				T	1970+		4.6	1945		3.6	1982+
8				T	1961		2.3	1983		10.5	1985
9				T	1973+		2.0	1935		5.5	1931
10				T	1969+		4.8	1978		4.0	1949
11				0			4.7	1985		9.5	1968
12				T	1969		5.1	1985		2.2	1972
13				3.6	1966		1.7	1951		3.7	1982
14				0.1	1969		6.9	1955		2.6	1948
15				0.2	1984		9.5	1958		2.3	1928
16	T	1946		T	1984+		4.0	1931		8.5	1967
17	2.2	1965		4.8	1984		11.0	1930		8.8	1970
18	1.0	1978		13.8	1984		4.1	1985		3.7	1977
19				T	1984+		6.9	1941		5.2	1951
20				1.0	1949		7.0	1946		6.6	1967
21				2.0	1961		4.3	1961		4.0	1979
22				0.1	1935		0.5	1940		4.7	1987
23				T	1975+		3.0	1931		3.8	1948
24	T	1984		6.6	1956		4.9	1951		7.6	1932
25	T	1986+		T	1954		5.7	1944		5.9	1943
26	T	1934		1.6	1984		7.0	1973		4.3	1936
27				5.8	1971		4.6	1960		8.1	1948
28				6.3	1961		3.5	1975		12.6	1972
29	T	1950		3.5	1972		5.3	1991		8.0	1936
30	4.0	1971		2.2	1981		4.2	1967		5.8	1975
31				8.5	1971					4.7	1965+
mnth	4.0	1971 /30th		13.8	1984 /18th		11.0	1930 /17th		12.6	1972 /28th

Hail not included
* Trace means too small to measure.
+ Also in earlier years.

TABLE 46

GREATEST SNOWFALL (INCLUDING ICE PELLETS) IN ANY 24 HOURS (INCHES AND TENTHS)
AND GREATEST DEPTH# OF SNOW ON THE GROUND (INCHES) AND DATES
1928 - 1991

MONTH	GREATEST SNOWFALL IN ANY 24 HOURS AMOUNT	DAYS	YEAR	GREATEST DEPTH OF SNOW ON GROUND AMOUNT	DAYS	YEAR
JANUARY	10.7	28-29	1980	23	23-24	1949
	9.7	20	1962	17	31	1937
	9.0	6-7	1967	13	7	1967
	8.5	14	1953	12	29-30	1980
FEBRUARY	11.9	1-2	1989	17	1-2	1949
	8.8	10-11	1984	15	1	1937
	8.7	14-15	1944	13	2,4	1989+
	8.6	4-5	1974	11	3	1936+
MARCH	15.4	13-14	1944	14	2	1977
	13.9	1-2	1966	11	2	1966+
	13.8	10-11	1952	9	10	1962+
	11.8	21-22	1964	8	11-12	1990+
APRIL	16.2	9-10	1974	12	10	1974
	11.1	22-23	1958	10	23	1958
	10.7	25-26	1984+	9	2	1955
	9.7	27-28	1970	8	28	1970
MAY	6.4	4-5	1975	5	2	1964
	5.3	5	1965	4	5	1978
	5.0	11	1983	3	4-5	1975
	4.9	2	1964	2	11	1983+
SEPTEMBER	4.0	30	1971	4	30	1971
	2.2	17	1965	1	17	1965
	1.0	18	1978			
OCTOBER	18.4	17-18	1984	14	18	1984
	8.5	31	1971	8	31	1972
	6.7	31-1	1956	6	24	1956
	6.3	28	1961	4	29	1972
NOVEMBER	11.0	17	1930	11	19	1985
	9.9	14-15	1958	10	15-16	1958
	8.8	18-19	1985	8	15	1955
	7.0	20	1946	7	26-27	1973+
DECEMBER	18.1	28-29	1972	16	28	1948
	13.4	16-17	1970	15	29	1972
	10.7	7-8	1985	14	25	1932
	10.5	27-28	1948	13	25-28	1983+
ANNUAL	18.4	10/17-18	1984	23	1/23-24	1949

+Also in earlier years
#Greatest snow depth in a given snow episode

TABLE 47

EARLIEST AND LATEST DATE AND AMOUNT OF MEASURABLE SNOWFALL (0.1 INCH OR MORE)
AND THE AVERAGE DATE OF THE FIRST MEASURABLE SNOWFALL
1928 - 1991

EARLIEST FALL DATE AND AMOUNT OF SNOWFALL		LATEST FALL DATE AND AMOUNT OF SNOWFALL		LATEST SPRING DATE AND AMOUNT OF SNOWFALL	
DATE	AMOUNT(IN)	DATE	AMOUNT(IN)	DATE	AMOUNT(IN)
Sep 17, 1965	2.2	Dec 25, 1943*	5.9	May 18, 1960	1.0
Sep 18, 1978	1.0	Dec 25, 1939	0.5	May 15, 1955	2.9
Sep 30, 1971	4.0	Dec 23, 1937	1.0	May 11, 1983	5.0
Oct 1, 1971	0.7	Dec 9, 1949	3.6	May 11, 1967	1.0
Oct 13, 1966	3.6	Dec 7, 1974+	2.4	May 10, 1953	0.1
Oct 14, 1969	0.1			May 8, 1930	1.0
Oct 15, 1984	0.2			May 5, 1964	0.4
Oct 20, 1949	1.0			May 5, 1937	0.3

Average date of first snowfall...Nov 9
Average date of last snowfall...Apr 18

TABLE 48

GREATEST NUMBER OF CONSECUTIVE DAYS WITH 1.0 INCH OR MORE OF SNOW ON THE GROUND
1928 - 1991

Days	Period
86	Nov 17, 1930 - Feb 11, 1931
83	Dec 20, 1983 - Mar 11, 1984
82	Dec 9, 1932 - Feb 28, 1933
77	Dec 14, 1948 - Feb 28, 1949
66	Dec 22, 1988 - Feb 25, 1989
61	Jan 9, 1985 - Mar 10, 1985
57	Dec 13, 1990 - Feb 7, 1991
54	Dec 28, 1972 - Feb 19, 1973
54	Jan 3, 1955 - Feb 25, 1955
52	Dec 6, 1967 - Jan 26, 1968

TABLE 49

MAXIMUM SNOWFALL FROM ANY SINGLE STORM#
1928 - 1991

AMOUNT inches	DURATION Began	Ended
21.6	Mar 12, 1944 -	Mar 15, 1944
18.4	5:04 a.m. Oct 17, 1984 -	10:35 a.m. Oct 18, 1984
18.1	1:03 p.m. Dec 28, 1972 -	1:30 p.m. Dec 29, 1972
17.4	5:43 a.m. Mar 1, 1977 -	3:35 a.m. Mar 3, 1977
17.4	6:02 p.m. Apr 9, 1974 -	8:20 p.m. Apr 10, 1974

#Storm total not limited to 24 hours.
*This date is for the airport location. The latest fall snowfall to occur in the Salt Lake area was during the winter of 1890-91 when the first measurable snow came on Jan 2, 1891 (0.3 inches)
+Also occurred on this date in earlier years.

TABLE 50

AVERAGE, MAXIMUM AND MINIMUM NUMBER OF DAYS
WITH MEASUREABLE SNOWFALL
1928 - 1991

Month	Maximum		Minimum		Month	Maximum		Minimum	
	Days	Year	Days	Year		Days	Year	Days	Year
September	1	1978+	0	1991+	January	17	1979	1	1961
						16	1937	2	1953+
Average					Average	15	1949	3	1940+
*					9	14	1932		
			0	1990+					
October	6	1971			February	15	1939	0	1953
	4	1984				12	1960+	1	1973+
Average	3	1989			Average	11	1985		
*					6	10	1984		
November	11	1985	0	1976+	March	17	1977	0	1940+
	10	1975+	1	1989+		15	1964	1	1992+
Average	9	1988+			Average	13	1952		
4	8	1978+			5	12	1944		
	7	1983+				11	1938		
December	21	1983	1	1962+	April	11	1970	0	1989+
	15	1951+	2	1979+		8	1984		
Average	14	1970+			Average	7	1991+		
7	13	1973+			3	6	1967		
	12	1969+							
					May	3	1975	0	1991+
						2	1978+		
					Average				
					*				

TABLE 51

AVERAGE, MAXIMUM AND MINIMUM NUMBER OF DAYS WITH
MEASUREABLE SNOWFALL BY SEASON
1928-1929 through 1990-1991

Maximum Number of Days		Average Number of Days	Minimum Number of Days	
Days	Season		Days	Season
63	1983-1984		9	1939-1940
52	1973-1974		11	1933-1934
51	1963-1964	34	18	1946-1947
50	1978-1979+		21	1958-1959
48	1984-1985+		22	1962-1963+
45	1975-1976		23	1952-1953

+ Also occurred in earlier years or seasons
* The average frequency is less than 1/2 day
# The snowfall season begins July 1 and ends June 30.

TABLE 52

AVERAGE AND MAXIMUM NUMBER OF DAYS WITH SNOWFALL (INCLUDING ICE PELLETS) OF 1 INCH OR MORE AND 3 INCHES OR MORE

Month	Snowfall 1 inch or more 1928 - 1991			Snowfall 3 inches or more 1951 - 1991		
	Avg Days	Maximum Number Days	Maximum Number Year	Avg Days	Maximum Number Days	Maximum Number Year
SEPTEMBER	*	1	1978+	*	1	1971
OCTOBER	*	3	1984	*	2	1984+
		2	1991+		1	1972+
		1	1973+			
NOVEMBER	2	8	1985	1	5	1985
		7	1931		3	1978+
		6	1975+		2	1961+
DECEMBER	4	15	1983	2	5	1972+
		9	1932		4	1982+
		8	1972+		3	1970+
JANUARY	4	9	1949+	2	5	1967+
		7	1967+		4	1965
		6	1982+		3	1980+
FEBRUARY	3	8	1989+	1	4	1969
		7	1976		2	1987+
		6	1979+			
MARCH	3	10	1964	1	5	1977
		9	1977+		4	1952
		8	1962		3	1980+
APRIL	1	6	1974	1	4	1984+
		5	1984+		3	1974+
		4	1991+		2	1975+
MAY	*	3	1975	*	1	1983+
		1	1983+			
SEASON	18	32	1983-84+	8	15	1951-52
		27	1975-76		14	1973-74
		26	1963-64+		12	1968-69+
		25	1932-33		10	1971-72+

* Average less than 1/2 day
+ Also occurred in earlier years
# Snowfall season extends from July 1 through June 30

TABLE 53

AVERAGE AND GREATEST NUMBER OF DAYS
WITH THUNDERSTORMS AND HAIL
1928 - 1991

Month	THUNDERSTORMS			HAIL		
	Average Days	Greatest Days	Year	Average Days	Greatest Days	Year
January	*	2	1987+	*	2	1969+
February	1	4	1936	*	2	1950
March	1	5	1958	*	2	1961
April	2	7	1930	1	3	1973+
May	5	13	1980	1	3	1980+
June	5	19	1967	1	4	1944
July	7	14	1985+	*	2	1969
August	8	16	1952+	*	2	1991+
September	4	10	1937	*	2	1973
October	2	6	1983+	*	2	1945
November	*	3	1971+	*	1	1983+
December	*	3	1964	*	3	1964
Annual	36	57	1983+	4	13	1945

* Monthly average is less than 1/2 day
\+ Also occurred in earlier years

TABLE 54

AVERAGE RELATIVE HUMIDITY* BY TIME PERIODS
1951 - 1991

Month	5 a.m. MST	11 a.m. MST	5 p.m. MST	11 p.m. MST
January	79	70	69	78
February	77	63	59	75
March	71	52	47	68
April	67	44	39	62
May	66	38	33	58
June	60	31	26	50
July	53	27	22	43
August	55	30	23	46
September	61	34	28	54
October	69	43	41	66
November	74	57	58	73
December	79	70	71	78
Annual	68	47	43	63

*Relative humidity is the most common form of measuring water vapor in the air. Expressed as a percentage, it denotes the amount of moisture in the air, compared to the maximum amount of moisture the air can hold at a given temperature. A relative humidity of 100 percent indicates a saturated air mass.

TABLE 55

SUNSHINE, SKY COVER, and HEAVY FOG

Month	Avg. Pct. of Possible **Sunshine**	**Sky Cover** (Sunrise-Sunset) Avg Amt of Sky Cover (tenths)	Average Number of Days: Clear	Partly Cloudy	Cloudy	**Heavy Fog** Average Number of Days	Greatest Number of Days	Year
January	46	7.3	6	6	19	4	21	1931
February	55	7.1	5	7	16	2	13	1985
March	64	6.7	7	9	15	*	5	1984
April	67	6.4	7	9	14	*	2	1958
May	72	5.7	9	11	11	*	2	1964
June	79	4.3	14	10	6	0		
July	84	3.5	17	10	4	0		
August	83	3.7	16	11	4	0		
September	83	3.6	17	8	5	0		
October	72	4.6	14	8	9	*	1	1971+
November	54	6.2	9	7	14	1	4	1968+
December	43	7.2	6	7	18	4	14	1980
ANNUAL	69	5.5	127	103	135	11	37	1931

Period of Record:
Average percent of possible sunshine..
  January through June: 1936-1939; 1942-1991.
  July through November: 1935-1938; 1942-1991.
  December: 1935-1938; 1941-1991.
Average amount of sky cover (sunrise to sunset): 1936-1991.
Average number of days of clear, partly cloudy, and cloudy and average number of days with heavy fog: 1929-1991.
Greatest number of days with heavy fog: 1928-1991.

Sky cover is expressed in a range from 0 (for no clouds) to 10 (for sky completely covered by clouds).
  Clear...0/10 to 3/10 sky cover
  Partly cloudy...4/10 to 7/10 sky cover
  Cloudy...8/10 to 10/10 sky cover

Heavy fog is defined as fog reducing visibility to 1/4 mile or less.

* Less than 1/2 day
+ Also occurred in earlier years
Total sunshine available at Salt Lake City is 267,341 minutes per year.

TABLE 56a

AVERAGE, MAXIMUM, AND MINIMUM NUMBER OF DAYS IN MONTH
WITH CLEAR, PARTLY CLOUDY, AND CLOUDY SKIES

JANUARY - JUNE

1928 - 1991

	CLEAR					PARTLY CLOUDY					CLOUDY				
MONTH	Average	Maximum/Year		Minimum/Year		Average	Maximum/Year		Minimum/Year		Average	Maximum/Year		Minimum/Year	
JAN	6	13	1961+	0	1950	6	17	1930	1	1981+	19	29	1967	8	1930
		12	1968	1	1967+		13	1939	2	1978+		28	1981	10	1961
		10	1948+	2	1981+		12	1992	3	1986+		26	1950	11	1935
FEB	5	12	1964+	0	1979	7	15	1930	3	1989+	16	26	1979	7	1935
		10	1955+	2	1990+		12	1935	4	1992+		25	1962	9	1988+
		9	1988+				11	1980	5	1986+		21	1990+	10	1964
MAR	7	12	1968+	1	1949	9	15	1961+	2	1960	15	24	1983+	7	1956+
		11	1965	2	1984+		13	1972+	3	1971+		23	1949	8	1939+
		10	1985+	3	1983+		12	1950	4	1983+		21	1989	11	1972+
APR	7	15	1934	2	1991+	9	19	1942	2	1951	14	20	1965+	6	1939+
		12	1977+	3	1978		16	1938	4	1963		19	1983+	7	1931
		11	1933+	4	1988+		15	1932	5	1983+		18	1988+	9	1985+
MAY	9	19	1929	1	1962	11	18	1941+	5	1990+	11	20	1977	2	1928
		18	1936	3	1980+		17	1960	6	1978+		19	1980	4	1939+
		17	1931	4	1981		16	1932	7	1984+		18	1981+	6	1969
JUN	14	22	1935	4	1969	10	21	1930	3	1938	6	17	1964	0	1935+
		21	1929	7	1964+		15	1982+	5	1986+		12	1969+	2	1990+
		20	1974+	8	1967		14	1969	6	1968+		11	1948+		

\+ Also occurred in earlier years

Clear skies defined as 0/10 to 3/10 sky cover
Partly cloudy skies defined as 4/10 to 7/10 sky cover
Cloudy skies defined as 8/10 to 10/10 sky cover

TABLE 56b

AVERAGE, MAXIMUM, AND MINIMUM NUMBER OF DAYS IN MONTH WITH CLEAR, PARTLY CLOUDY, AND CLOUDY SKIES

JULY - DECEMBER

1928 - 1991

	CLEAR					PARTLY CLOUDY					CLOUDY				
MONTH	Average	Maximum/Year		Minimum/Year		Average	Maximum/Year		Minimum/Year		Average	Maximum/Year		Minimum/Year	
JUL	17	25	1978	9	1987+	10	19	1960	3	1955	4	10	1987	0	1956+
		24	1955+	10	1966+		17	1966+	4	1978+		9	1985+	1	1969+
		23	1942+	11	1937		16	1984	5	1962		7	1986+		
AUG	16	26	1944	3	1930	11	19	1982	4	1933+	4	13	1930	0	1985+
		25	1933+	4	1929		18	1929	5	1978+		11	1968	1	1974+
		23	1948	6	1982		17	1945+	6	1973+		10	1957	2	1980+
SEP	17	27	1933	3	1940	8	17	1940	2	1933	5	15	1959	0	1962
		26	1962+	7	1986		15	1976	3	1979+		14	1982	1	1974+
		25	1979+	8	1982		14	1978	4	1975+		13	1961		
OCT	14	24	1952	5	1957	8	13	1963+	2	1942	9	16	1972	1	1929
		23	1933	7	1972		12	1934	3	1973+		15	1981+	2	1952
		21	1954	8	1982+		11	1957+	4	1991+		14	1971+	3	1965+
NOV	9	22	1936	0	1988	7	13	1932	2	1944	14	24	1970	3	1929
		19	1939+	2	1983		12	1967	3	1970		23	1972	4	1936
				3	1985+		11	1969+	4	1979+		22	1983	5	1954+
DEC	6	15	1960	0	1950	7	13	1939	1	1985+	18	29	1983	9	1939
		14	1959	1	1983+		12	1940+	3	1963+		28	1950	10	1960
		13	1956+				11	1970	4	1982+		27	1985	11	1953+
ANNUAL	127	188	1933	88	1967	103	163	1930	70	1979	135	182	1983	87	1933
		162	1929	89	1981		134	1941	78	1964		172	1981	91	1939
		156	1952	94	1982		117	1967	83	1978+		163	1978+	96	1929

\+ Also occurred in earlier years

Clear skies defined as 0/10 to 3/10 sky cover
Partly cloudy skies defined as 4/10 to 7/10 sky cover
Cloudy skies defined as 8/10 to 10/10 sky cover

TABLE 57

AVERAGE WIND SPEED, PREVAILING DIRECTION, FASTEST MILE, AND PEAK GUST

	*Feb 1930 - Dec 1991		*Jul 1935 - Dec 1991				*Aug 1954 - Dec 1991			
	Average Speed MPH	Prevailing Direction (1)	Fastest Mile (2) Speed MPH	Dir	Day	Year	Peak Gust (3) Speed MPH	Dir	Day	Year
January	7.7	SSE	59(3)	NW	10	1980	69(3)	NW	10	1980
February	8.2	SE	56(3)	SE	18	1954	54(3)	S	1	1989+
March	9.3	SSE	71(3)	NW	10	1954	62(3)	S	2	1974
April	9.5	SE	57	NW	11	1964	69	W	22	1961
May	9.4	SE	57	NW	21	1953	69(3)	SW	28	1989
June	9.4	SSE	63	W	3	1963	94	NW	3	1963
July	9.5	SSE	51	NW	25	1986	74	NW	18	1981
August	9.6	SSE	58	SW	6	1946	74	NW	13	1978
September	9.1	SE	61(3)	W	3	1952	71(3)	NW	5	1972
October	8.5	SE	67(3)	NW	27	1950	71(3)	NW	5	1967
November	7.8	SSE	63(3)	NW	11	1937	59(3)	NW	4	1968
December	7.5	SSE	54	S	25	1955	60	N	15	1981
ANNUAL	8.8	SSE	71(3)	NW	10 Mar	1954	94	NW	3 Jun	1963

\+ Also occurred in earlier years.

* Period of record.

(1) The prevailing direction is the most frequent observed direction from which the wind blows during a specific time period.

(2) Fastest mile is the fastest one minute observed wind speed taken from a multiple register that contains a time record of the passing of each mile of wind.

(3) Wind gusts are reported when rapid fluctuations in wind speed result in a variation of 10 kts (11 mph) or more between peaks and lulls. The duration of each gust is usually less than 20 seconds.

An official wind gust must be recorded on an instantaneous wind-speed recorder. This type of instrument was not available at Salt Lake International Airport until August 15, 1954. Hence, the periods of record for fastest mile and peak gust differ, and should be taken into account when using this table. (Note that the record fastest mile for March is much higher than the record peak gust. This is because an actual measurement of the gust on an instantaneous wind-speed recorder was not available at that time.)

TABLE 58

PRESSURE RECORDS

	SEA LEVEL PRESSURE 1928 - 1991						STATION PRESSURE (Airport Elevation 4227 ft) 1929 - 1991*						
Month	Highest	Day	Year	Lowest	Day	Year	Average	Highest	Day	Year	Lowest	Day	Year
January	31.01	1	1979	29.04	12	1932	25.80	26.39	28	1962	24.85	12	1932
February	30.83	8	1989+	29.08	6	1937	25.77	26.38	12	1943	24.92	6	1937
March	30.78	11	1951	29.07	2	1989	25.69	26.30	11	1951	24.99	10	1954+
April	30.58	6	1939	29.14	22	1960+	25.67	26.19	6	1939	25.03	11	1935
May	30.50	15	1970	29.11	29	1988	25.66	26.14	15	1970	25.16	23	1953
June	30.39	15	1981	29.17	22	1944	25.68	26.04	22	1964	25.11	8	1944
July	30.36	12	1989	29.30	4	1986	25.73	26.07	8	1959	25.30	8	1954
August	30.33	31	1987	29.39	31	1944	25.74	26.01	20	1961	25.32	29	1932
September	30.52	25	1970	29.33	4	1970	25.74	26.16	25	1970	25.25	2	1936
October	30.67	31	1981	29.23	29	1935	25.78	26.26	19	1964	25.12	29	1935
November	30.89	23	1938	29.02	30	1982	25.82	26.38	23	1938	25.10	15	1952
December	31.09	8,9	1956	29.01	1	1982	25.82	26.43	8,9	1956	24.98	30	1951
ANNUAL	31.09	8,9 Dec	1956	29.01	1 Dec	1982	25.74	26.43	8,9 Dec	1956	24.85	12 Jan	1932

\+ Also occurred in earlier years.

* Highest and lowest station pressure tabulations discontinued January 1971. The average station pressure values in this table have been continued through the present.

TABLE 58a

AVERAGE MONTHLY STATION PRESSURE REDUCED TO SEA LEVEL

January	30.12 in.	May	29.96 in.	September	30.05 in.
February	30.09 in.	June	29.98 in.	October	30.10 in.
March	30.00 in.	July	30.04 in.	November	30.14 in.
April	29.97 in.	August	30.05 in.	December	30.14 in.
		Annual	30.05 in.		

TABLE 59

NORMAL, HIGHEST AND LOWEST HEATING DEGREE DAYS BY MONTHS AND YEAR OF OCCURRENCE (BASE 65 DEGREES)
1928 - 1991

Month	Normal	Highest	Year	Lowest	Year
July	0	23	1938	0	1989+
August	0	49	1968	0	1988+
September	97	239	1965	16	1960
October	377	573	1946	158	1988
November	759	995	1930	560	1953
December	1076	1459	1932	835	1977
January	1128	1658	1949	784	1953
February	865	1363	1933	637	1934
March	753	1016	1964	484	1934
April	474	619	1970	268	1934
May	220	415	1933	56	1934
June	53	185	1945	0	1977
ANNUAL	5802	6875	1932	4590	1934

TABLE 60

NORMAL, HIGHEST AND LOWEST COOLING DEGREE DAYS BY MONTHS AND YEAR OF OCCURRENCE (BASE 65 DEGREES)
1928 - 1991

Month	Normal	Highest	Year	Lowest	Year
January	0	-	-	-	-
February	0	-	-	-	-
March	0	-	-	-	-
April	0	25	1987	0	1988+
May	28	181	1934	0	1953
June	152	334	1988	40	1945
July	388	510	1960	296	1986
August	311	489	1940	185	1928
September	97	208	1979	21	1965
October	5	29	1963	0	1989+
November	0	-	-	-	-
December	0	-	-	-	-
ANNUAL	981	1468	1940	616	1965

(1) Normals based on the record for the 1951-1980 period.

\+ Also occurred in earlier years.

NOTE: Heating and cooling degree days are used as an indication of fuel and energy consumption. One heating or cooling degree day is given for each degree that the daily mean temperature departs below or above 65 degrees respectively.

TABLE 61

WARMEST AND COLDEST SUMMER SEASONS (JUNE, JULY, AUGUST) WITH THEIR AVERAGE MEAN TEMPERATURE AND AMOUNT OF PRECIPITATION RECEIVED DURING THE PERIOD 1928 - 1991

WARMEST			AVERAGE SUMMER SEASON MEANS FOR PERIOD OF RECORD		COLDEST		
Year	Mean Temp	Pcpn	Temp	Pcpn	Year	Mean Temp	Pcpn
1988	77.7	0.29			1928	69.5	1.31
1961	77.5	1.83			1945	69.9	7.93
1985	76.6	2.18			1965	70.7	5.45
1940	76.1	0.59	73.2	2.57	1964	70.9	3.04
1990	75.7	1.76			1944	70.9	2.82
1974	75.6	0.78			1932	70.9	4.58
1960	75.5	0.74			1951	71.0	4.05

+ Also occurred in earlier years

TABLE 62

WARMEST AND COLDEST WINTER SEASONS (DECEMBER, JANUARY, FEBRUARY) WITH THEIR AVERAGE MEAN TEMPERATURE, TOTAL SNOWFALL, AND DAYS WITH SNOW DURING THE PERIOD 1928-1929 TO 1990-1991

WARMEST					AVERAGE WINTER SEASON MEANS FOR PERIOD OF RECORD				COLDEST				
Year	Mean Temp	Total Snow (In)	Nmbr Days With Snow	Total Pcpn	Temp	Snow (In)	Nmbr Days With Snow	Pcpn	Year	Mean Temp	Total Snow (In)	Nmbr Days With Snow	Total Pcpn
1977-78	38.0	39.3	28	5.21					1932-33	19.5	66.2	36	3.77
1933-34	37.9	13.6	9	3.77					1948-49	19.9	74.7	36	5.58
1937-38	36.3	15.9	15	2.71					1930-31	23.5	15.0	15	1.51
1952-53	36.2	25.2	8	4.28	30.4	38.0	21	3.82	1928-29	23.9	24.2	25	2.13
1969-70	35.8	22.7	20	3.87					1931-32	23.9	41.9	31	3.09
1958-59	35.4	29.9	15	3.55					1963-64	24.0	39.1	30	2.06
1957-58	35.3	28.2	23	4.68					1972-73	24.9	59.7	22	5.62

TABLE 63

HOLIDAY WEATHER INFORMATION
1929 - 1991

	Avg Max Temp	Avg Min Temp	High Max Temp	Date	Low Max Temp	Date	High Min Temp	Date	Low Min Temp	Date	Chc of .01 inch or more pcpn	Pct of Days With 0.1 in. or more snow	Max 24 hr Snow	Date
NEW YEARS DAY January 1	36	19	58.1	1943	14.2	1979	42.0	1934	-4.0	1931	26	21	4.6	1937
PRESIDENTS DAY Feb 18-Feb 25	46	26	64.8	1958	29.1	1955	42.9	1982	5.9	1975	31#	18*	2.7	1942
EASTER SEASON Mar 15-Apr 15	56	33	83.7	4/7 1930	27.2	3/27 1975	61.8	4/12 1992	10.0	3/19 1965	33#	14*	11.8	4/10 1974
MEMORIAL DAY Last Monday in May	76	47	92.7	5/31 1956+	52.0	5/30 1937	66.6	5/27 1974	32.4	5/28 1954	29			
INDEPENDENCE DAY July 4	91	60	101.8	1936	73.2	1938	70.9	1988	46.7	1938	9			
PIONEER DAY July 24	94	63	105.4	1931	76.6	1977	77.2	1953	50.2	1954	14			
LABOR DAY First Monday in September	85	54	98.0	9/4 1950	57.3	9/1 1973	71.3	9/4 1978	38.6	9/3 1961	17#			
UTAH STATE FAIR Sep 1 -Sep 15	77	47	100.0	9/8 1979	54.9	9/5 1970	73.1	9/5 1978	32.2	9/13 1928	17#			
HALLOWEEN October 31	59	34	72.0	1990	35.1	1971	53.2	1990	17.5	1935	28	5	8.5	1971
THANKSGIVING DAY Nov 22-Nov 28	45	26	68.6	11/25 1960	22.5	11/24 1931	46.9	11/24 1960	0.0	11/24 1931	23#	14*	7.0	11/26 1973
CHRISTMAS DAY December 25	38	22	59.2	1955	18.1	1990	46.0	1955	-6.7	1930	34	30	5.9	1943

These percentages relate to the probability of precipitation on any one day of the given period.
* These percentages relate to snowfall on any one day of the given period.
+ Also occurred on 27 May 1951.

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